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TWENTY-FIRST ANNUAL REPORT.

Water Commissioners

SPRINGFIELD, MASS.

1894.

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City of Springfield.

TWENTY-FIRST ANNUAL REPORT

OF THE

Board of Water Commissioners

TO

THE CITY COUNCIL,

TOGETHER WITH THE

REPORTS OF THE REGISTRAR AND SUPERINTENDENT

FOR THE YEAR 1894.

SPRINGFIELD, MASS.
CLARK W. BRYAN CO., CITY PRINTERS,
1895.

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WATER COMMISSIONERS' REPORT.

WATER COMMISSIONERS' OFFICE,
43 BRIDGE STREET.

SPRINGFIELD, MASS., January 2, 1895.

To the City Council of the City of Springfield:

The Board of Water Commissioners have the honor to submit herewith their twenty-first annual report of the finances and condition of the Water Department for the year ending December 10, 1894, including the reports of the water registrar and superintendent.

LUDLOW MAIN No. 2.

This important work has been completed; the water was turned on August 27, and the main is working to our entire satisfaction. But one defective pipe was discovered, since when no defects whatever have shown themselves.

We feel that the city should congratulate itself upon the completion of this main. No city in the Commonwealth has a better system or is better protected from fire.

The fact of the two mains being independent of each other, eliminates the danger from a fire occurring at a time when the supply might be shut off from one main.

There were used in the work 9,700 tons of cast-iron pipe, and 150 tons of lead for the joints. The fact that no employe was seriously injured by any accident in handling this

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immense amount of material, or by the caving of the deep trenches, shows the careful watchfulness of the foremen in charge.

The section of about three-fourths of a mile west from the Ludlow reservoir proved to be far more difficult and expensive than anticipated. Through this section the pipe was laid from fifteen to twenty feet deep, and in nearly the entire distance quicksand was encountered, rendering the progress slow and tedious. The pipe was laid through this cut on a timber and plank foundation, and we have no reason to fear any future trouble arising from it.

In laying this main we entered upon, and crossed, forty-eight pieces of land. In forty of these cases the damages have been amicably settled, and it is expected that the remainder will soon be adjusted without recourse to the courts.

The estimated cost of this main was $363,081.85, as shown in detail in our report for 1892 (under "Estimate No. 2," in the Engineers' report to the Board, dated November 1, 1892). Bonds were issued for this work to the amount of $350,000.00 and the gross receipts from their sale, with premiums and interest, reached the sum of $362,435.12. The total amount of approved bills paid by the city treasurer to date has been $317,146.13, leaving a balance in the treasury of $45,288.99. We would recommend that $40,000.00 of this amount be placed in the sinking fund, leaving the balance of $5,288.99 in the treasury until the remaining land damages are adjusted.

CONSTRUCTION.

The total amount charged to this account during 1894—exclusive of the new main—is $14,845.49; extending the mains 20,280 feet, or about four and one-half miles.

The above amount of extension is some less than that for last year.

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STATEMENT.

Extensions	1890,	were	9,962	feet,	cost,	.	$7,833 06
"	1891,	"	14,927	"	"	.	10,396 00
"	1892,	"	24,853	"	"	.	16,253 21
"	1893.	"	25,079	"	"	.	17,090 71
"	1894,	"	20,280	"	"	.	13,654 84

The amount required for next season's work will probably exceed that for last season. The call for the extension of the water mains is a good index of the growth of the city, and your Commissioners feel that these requests should be complied with, whenever they are assured that a reasonable revenue will accrue to the city from the investment.

For the details of expenditures in extending mains, the number of feet, and the streets in which the same have been laid, reference may be had to the reports of the Registrar and Superintendent.

MAINTENANCE.

The total amount charged to this account is $126,295.37, distributed as follows:

GENERAL MAINTENANCE.

Management and repairs, (operating, etc.)	$19,437 33	
Interest on bonds, ...	99,500 00	
Taxes (reservoir property), .	209 04	
		$119,146 37

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SPECIAL MAINTENANCE.

Distribution mains, renewals, . .	$918 96	
Expense, Perkins hydrants (changing),	245 91	
Repairs, sundry sts. (old accounts), .	489 43	
Legal expense (counsel, experts, etc.),	5,446 18*	
Armory street improvement, 1893, (completion), ...	48 82	
		$7,149 30

There have been added to the system during the year 482 new connections, making the total number 7,482.

The following summary shows the number of service connections added each year since 1884:

In 1885, . . .	224	new connections.
In 1886. . . .	282	"
In 1887, . . .	300	"
In 1888. . . .	328	"
In 1889. . . .	350	"
In 1890. . . .	273	"
In 1891. . . .	411	"
In 1892, . . .	452	"
In 1893. . . .	367	"
In 1894. . . .	482	"

*By reference to the Registrar's Report, under "Detail Financial Statements," it will be found that nearly the entire amount of "Legal Expense" was chargeable to the Jabish brook mill cases.

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FINANCIAL.

The cash receipts from water rates, service connections, repairs, etc., amount to $187,200.00, a gain of only $3,858.31 over that of the preceding year. This is a marked falling off from the gains in previous years, as shown by the following statement of same since the year 1884:

YEAR.	CASH RECEIPTS.	INCREASE.
1885,	$99,431 00	. . .
1886,	106,875 33	$7,444 33
1887,	117,196 84	10,321 51
1888,	129,463 87	12,267 03
1889,	138,457 42	8,993 55
1890,	146,860 22	8,402 80
1891,	155,447 90	8,587 68
1892,	171,588 74	16,140 84
1893,	183,341 69	11,752 95
1894,	187,200 00	3,858 31

The large increase in 1892 and 1893 was attributed, in great measure, to the introduction of Jabish brook water, and the consequent improvement in the quality of the supply, while the smaller gain of the past year is accounted for, in part, by the fact that the *total bills committed for collection* have increased much less than formerly, and owing to the financial depression in general business a larger amount of bills than usual remain uncollected.

The past year has been a prosperous one, despite the small increase in the cash receipts, which have been sufficient, however, to meet all charges for interest (including that on the bonds for the new main); the cost of maintenance; the extension of about four and one-half miles of new distribution mains; and yet leave a surplus of $25,105.89 for the sinking fund.

The net total bonded indebtedness of the city on account of the water works, and the condition of the sinking fund for redemption of same, are shown in the statements following:

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BONDED DEBT.

1,000 water bonds bearing interest at 7 per cent. (par value $1,000 each), issued in 1873 and 1874, and falling due as follows: $25,000 payable each year from April 1, 1894, to April 1, 1902, ...	$225,000 00	
$775,000, all payable April 1, 1903,	775,000 00	
	$1,000,000 00	
Less amount due and paid April 1, 1894, ...	25,000 00	
		$975,000 00
200 water bonds bearing interest at 6 per cent. (par value $1,000 each), issued in 1875, and all due April 1, 1905, ...		200,000 00
125 water bonds bearing interest at 3½ per cent. (par value $1,000 each), issued in 1890 for Ludlow reservoir improvement, and all due October 1, 1920, ...		125,000 00
350 water bonds bearing interest at 4 per cent. (par value $1,000 each), issued in 1893 for Ludlow main No. 2, and due as follows: $200,000 payable April 1, 1913, . . .	$200,000 00	
$150,000, payable October 2, 1923,	150,000 00	
		$350,000 00
Total account water works, . .		$1,650,000 00

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SINKING FUND.

Balance in hands of Sinking Fund Commissioners December 10, 1893, ...	$22,699 32
Transferred (in 1894) from water works receipts, of 1893, ...	24,253 43
Interest received during 1894, ...	1,846 41
Balance in hands of Sinking Fund Commissioners December 10, 1894, ...	$48,799 16
Balance available from water works receipts, 1894, ...	25,105 89
Total available December 10, 1894, .	$73,905 05

Should the amount of $40,000.00 be transferred to this fund from the balance of Ludlow Main No. 2 fund (as recommended by your Commissioners in a preceding portion of this report), the total amount available for this purpose would be $113,905.05.

We beg leave to repeat the recommendation made in our report for 1893, that this sinking fund be allowed to accumulate, untouched, towards the redemption of the $775,000.00 falling due April 1, 1903, and that the amount of $25,000.00 due each year, until the above-named date, be paid from money raised by taxation, as was done in the case of the first such payment due and made during the year past.

LUDLOW RESERVOIR.

The emptying of this reservoir last year and refilling the same with fresh water has resulted in a marked improvement in the quality of the water. The old "Ludlow odor" has entirely disappeared and no algæ showed itself last season.

The examinations and analyses by the State Board of Health show that it ranks high among the water supplies of the various cities and towns of this Commonwealth.

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JABISH BROOK.

The flow from this brook last summer fell to one-half a million gallons per twenty-four hours, or to about one-tenth of our consumption; showing it to be of little value in a season of drouth, except by storing the water. But so long as the water of the Ludlow reservoir remains in its present purity, we have nothing to fear from a short supply.

DETAILS.

Detailed statements of the condition of the finances and work of the department for the year, will be found in the reports of the Registrar and Superintendent to the Board which reports are hereto annexed, and made a part of this report to your honorable body.

Respectfully submitted,

C. L. GOODHUE,
J. F. BIDWELL,
E. P. KENDRICK,
Board of Water Commissioners.

BOARD OF ALDERMEN, January 2, 1895.

Accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, January 2, 1895.

Read, concurred.

W. E. GILBERT, *Clerk.*

Approved, January 3, 1895.

E. P. KENDRICK, *Mayor.*

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WATER REGISTRAR'S REPORT.

To the Board of Water Commissioners of the City of Springfield:

GENTLEMEN:—The following report of the Water Registrar for the year ending December 10, 1894, is herewith respectfully submitted:—

For convenient reference I have divided the same into:—

1.—General Financial Statements.
2.—Detail Financial Statements.
3.—Miscellaneous Statements.

GENERAL FINANCIAL STATEMENTS.

CASH RECEIPTS AND EXPENDITURES.

(Not Including Ludlow Main No. 2 Fund.)
(City Treasurer's Account.)

To cash received from City Collector, .	$187,200 00	
To amounts uncalled for on pay-rolls, .	4 67	
		$187,204 67
By approved bills and pay rolls, . .	$62,598 78	
By interest on water bonds, . . .	99,500 00	
		$162,098 78
To balance available for sinking fund,		$25,105 89

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LUDLOW MAIN NO. 2 FUND.

(*City Treasurer's Account.*)

To balance on hand December 10, 1893, .		$83,234 95
To amount refunded for overcharged freight, 1893, ...	$54 36	
To amount refunded for shortage on pig lead, 1893, ...	9 54	
To amount uncalled for on pay rolls to date,	25 75	
To interest on daily balances of bank deposits,	1,500 00	
		$1,589 65
Total available, 1894, ...		$84,824 60
By approved bills and pay rolls, 1894, . .		39,535 61
Balance in hands of City Treasurer, December 10, 1894, ...		$45,288 99

Aggregate receipts from all sources to date, .	$362,435 12
Aggregate bills and pay rolls approved to date,	317,146 13
Balance as above, ...	$45,288 99

The net cost of construction and maintenance has been charged to the following accounts :—

CONSTRUCTION.

(*Exclusive of Ludlow Main No. 2.*)

Distribution mains—general, . . .	$13,654 84
Standpipes for street sprinkling, . .	190 48
Belchertown reservoirs, ...	49 72
Office improvements—second floor, . .	891 81
Proposed Belchertown reservoir—(preliminary), ...	58 64
Total, ...	$14,845 49

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MAINTENANCE.

General:—		
Management and repairs, ...	$19,437 33	
Interest—coupons, ...	99,500 00	
Taxes, ...	209 04	
		$119,146 37
Special:—		
Distribution mains—renewals, . .	$918 96	
Expense, Perkins hydrants (changing), .	245 91	
Repairs—sundry streets, old accounts, .	489 43	
Legal expense (counsel, experts, etc.,) .	5,446 18	
Armory street improvement, 1893 (completion), ...	48 82	
		$7,149 30
Total, ...		$126,295 67

COST OF WATER WORKS.

(Exclusive of Ludlow Main No. 2.)

Total construction account, December 10, 1893,	$1,660,140 94
Less material then on hand, cost included above, ...	3,577 96
Corrected total, December 10, 1893, . .	$1,656,562 98
Aggregate construction accounts, 1894, .	14,845 49
Total construction accounts, December 10, 1894, ...	$1,671,408 47

The cost to date of the "Ludlow Main No. 2," (not included in the above total) is as follows:—

COST OF LUDLOW MAIN NO. 2.

Net cost to December 10, 1893, . . .	$276,476 60
Net approved bills and pay rolls paid by City Treasurer, 1894, ...	39,445 96
Net cost to December 10, 1894, . .	$315,922 56

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BONDED DEBT.

(As per books of City Treasurer.)

975 water bonds bearing interest at 7 per cent. (par value $1,000 each), issued in 1873 and 1874, and falling due as follows: $25,000 payable each year from April 1, 1895, to April 1, 1902.	$200,000 00	
$775,000, all payable April 1, 1903, . .	775,000 00	
		$975,000 00
200 water bonds bearing interest at 6 per cent. (par value $1,000 each), issued in 1875 and all due April 1, 1905, ...		200,000 00
125 water bonds bearing interest at 3½ per cent. (par value $1,000 each), issued in 1890 for Ludlow reservoir improvement, and all due October 1, 1920, . .		125,000 00
350 water bonds bearing interest at 4 per cent. (par value $1,000 each), issued in 1893, for Ludlow main No. 2, and due as follows:		
$200,000 payable April 1, 1913, . .	$200,000 00	
$150,000 payable October 2, 1923, . .	150,000 00	
		$350,000 00
Total account water works, . . .		$1,650,000 00

SINKING FUND.

Balance in hands of sinking fund commissioners, December 10, 1893. . . .	$22,699 32
Balance transferred from 1893 receipts, .	24,253 43
Interest on investments, 1894, . . .	1,846 41
Balance in hands of commissioners, December 10, 1894, ...	$48,799 16
Balance available from 1894 receipts, . .	25,105 89
Total amount available, December 10, 1894,	$73,905 05

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INVENTORY.

The value of stock, tools, office furnishings, etc., on hand December 1, 1894, as per report of the Superintendent, consists of the following accounts :—

Cast-iron pipe stock,	$4,606 12	
Wrought-iron pipe stock,	2,046 69	
Meter stock,	385 53	
Stores and supplies,	1,330 14	
Tools and machines,	3,187 87	
Office furniture and fixtures,	1,672 20	
Stable stock and fixtures,	1,291 92	
Total,		$14,520 47

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DETAIL FINANCIAL STATEMENTS.

RECEIPTS.

The following statements of the collection accounts show the division of the cash receipts of the department.

BILLS CHARGED COLLECTOR.

COLLECTION ACCOUNTS.	Uncollected Dec. 10, 1893	Committed 1894.	Total.
Water rates—annual,	$1,040 38	$108,412 17	$109,452 55
Water rates—meter,	181 66	46,207 73	46,389 39
Water rates—hose and fountains,	119 00	6,434 46	6,553 46
Water rates—builders,	130 00	1,702 50	1,832 50
Water rates—sprinkling streets,		4,308 25	4,308 25
Water rates—miscellaneous,	9 00	311 00	320 00
Services and repairs,	1,187 06	15,152 33	16,339 39
Meters and repairs,	379 65	6,808 23	7,187 88
Fines and penalties,	4 00	140 00	144 00
Off and on,		6 25	6 25
Miscellaneous accts. (sales etc.),	255 21	3,921 10	4,176 31
Totals charged.	$3,305 96	$193,404 02	$196,709 98

AMOUNTS ABATED TO COLLECTOR.

COLLECTION ACCOUNTS.	Amounts.	Total.
Water rates—annual,	$3,800 88	
Water rates—meter,	162 27	
Water rates—hose and fountains,	222 49	
Water rates—builders,	27 90	
Water rates—miscellaneous,	13 00	
Services and repairs,	89 30	
Meters and repairs,	42 85	
Fines and penalties,	12 00	
Miscellaneous accounts,	74 77	
Total abated,		$4,445 46

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AMOUNTS UNCOLLECTED.

COLLECTION ACCOUNTS.	Amounts	Total.
Water rates—annual,	$1,339 26	
Water rates—meter,	116 64	
Water rates—hose and fountains,	80 00	
Water rates—builders,	324 00	
Services and repairs,	2,124 08	
Meters and repairs,	752 15	
Fines and penalties,	16 00	
Miscellaneous accounts,	312 39	
Total uncollected,		$5,064 52

AMOUNTS COLLECTED AND PAID CITY TREASURER.

COLLECTION ACCOUNTS.	Amounts.	Amounts.	Total.
Water rates—annual,	$104,312 41		
Water rates—meter,	46,110 48		
Water rates—hose and fountains,	6,250 97		
Water rates—builders,	1,480 60		
Water rates—sprinkling streets,	4,308 25		
Water rates—miscellaneous,	307 00		
Total for water,		$162,769 71	
Services and repairs,	$14,126 01		
Meters and repairs,	6,392 88		
Fines and penalties,	116 00		
Off and on,	6 25		
Miscellaneous accounts,	3,789 15		
Total for material, labor, etc.,		24,430 29	
Total collected,			$187,200 00
Total in balance with bills charged collector,			$196,709 98

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The increased amount collected in 1894 over that in 1893 is but $3,858.31;—a marked falling off from the corresponding gains of preceding years, when the annual increase amounted to from $7,000 to $16,000, as shown below.

It will be seen by the following comparative statement, that the *increased amount of bills committed* to the City Collector in 1894 is much less than in the preceding year, while the amounts abated and uncollected have both increased.

COMPARISON—1893–1894.

	1893.	1894.	INCREASE.
Amounts collected,	$183,341 69	$187,200 00	$3,858 31
Amounts uncollected,	3,305 96	5,064 52	1,758 56
Amounts abated,	3,741 57	4,445 46	703 89
Amounts committed,	$190,389 22	$196,709 98	$6,320 76

INCREASE IN RECEIPTS SINCE 1884.

YEAR.	CASH RECEIPTS.	INCREASE.
1885	$ 99,431 00	. . . .
1886	106,875 33	$ 7,444 33
1887	117,196 84	10,321 51
1888	129,463 87	12,267 03
1889	138,457 42	8,993 55
1890	146,860 22	8,402 80
1891	155,447 90	8,587 68
1892	171,588 74	16,140 84
1893	183,341 69	11,752 95
1894	187,200 00	3,858 31

At the present writing,—without the necessary time for a thorough inquiry,—it is difficult to specify the exact causes of so small a comparative increase of cash receipts. However, the two following facts, which occur to me now, are probably responsible, in part at least, for the above showing, viz:—

1. The small amount of time it has been possible during the year to devote to the "House-to-house" inspection (where additional fixtures, not reported, are found).

2. The increased amount of bills uncollected at the end of the year, due, to a great extent, to the general business depression.

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INCOME:—VALUE ACCOUNTS.

In order to determine the true financial relation that the Water Works, as an investment, bear to the City of Springfield, this department, in its capacity of a self-sustaining and self-operating branch of a large corporate business institution, is entitled to show upon its books the total income or earnings from all sources, as well as the total expenditures or outlay of such earnings,—whether represented in cash or value, and whether actually collected or not;—and to this end therefore, I have incorporated in the ledger accounts the value of all such earnings and outlay during 1894, as stated below.

USE OF WATER BY THE CITY.

(Charged and credited as shown below.)

Almshouse and annexed buildings, . .		$314 00
City hall (amount fixed by city ordinance) .		500 00
Fire department (buildings), ...	$ 450 00	
Fire department (hydrant service), 717 fire hydrants at $20 (amount fixed by city ordinance), ...	14,340 00	
		14,790 00
Highway department (city yards, etc.), ..		43 00
Parks (fountains, $550; hose, $80; sprinkling Forest park roads, $25), . . .		655 00
Police department (buildings), . . .		70 00
Scavenger department and Wayfarers' lodge, .		64 00
School department (buildings), . . .		2,367 50
Sewer department (building purposes), .	$ 97 00	
Sewer department (flushing), (amount fixed by city ordinance), ...	500 00	
		597 00
Watering tanks and drinking fountains, 11 at $50, ...		550 00
Amount charged (on ledger only) to "City of Springfield—special account," . . (*NOTE: Called a resource account in partial offset to liability accounts of City Bonds and appropriations.*)		$19,950 50

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Amount brought forward,		$19,950 50
Water department (buildings), amount charged (on ledger only) to "Expense," . .		75 00
Total credited (on ledger, as gain account) to "Water rates—city use," . .		$20,025 50

RENTS OF REAL ESTATE.

(Charged and credited as shown below.)

Superintendent's house, No. 37 Bridge street (charged to "Salaries"), . . .	$300 00	
Hostler's and driver's house, No. 49 Bridge street (charged to "Teams"), . .	300 00	
Keeper's house, Ludlow reservoir (charged to "Care and repairs—Ludlow reservoir"),	180 00	
Keeper's house, Van Horn reservoir (charged to "Care and repairs—Van Horn reservoir"),	100 00	
Total credited to "Rents," . .		880 00
Total carried to "Income:—value accounts,"		$20,905 50

In regard to the "City use of Water" the more just and simple method, after all, is the one I have often recommended in my previous reports, viz: Such use to be billed, and paid for from an appropriation from general funds for this purpose, thus becoming *actual cash receipts*. Many cities have already adopted this method and the number of such is increasing.

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EXPENDITURES.

The following statements show the distribution of net cost of the principal construction and maintenance accounts.

CONSTRUCTION.

DISTRIBUTION MAINS—EXTENSIONS.

STREET.	PIPE.	SIZE.	COST.
Allendale street,	684 feet,	6 inches,	$411 51
Alexander street,	444 "	6 "	307 59
Acushnet avenue,	803 "	6 "	907 54
Alden street,	552 "	6 "	268 44
Bond place,	191 "	6 "	165 94
Beech street (four-fifths cost),	560 "	6 "	324 70
Berkshire street, I. O.,	456 "	6 "	286 28
Butler street,	144 "	4 "	59 19
Cass street,	596 "	6 "	388 61
Collins street,	539 "	6 "	317 07
Cortland street,	627 "	6 "	326 54
Clifford street,	505 "	4 "	235 15
Dawes street,	1250 "	6 "	637 00
East Hooker street,	318 "	6 "	170 69
Euclid avenue,	1163 "	6 "	669 04
Fort Pleasant avenue,	1176 "	8 "	836 33
Firglade avenue,	288 "	6 "	131 10
Greene street,	200 "	2 "	36 08
Hancock street,	412 "	6 "	261 59
Hyde avenue,	930 "	6 "	487 41
Kibbe avenue (one-half cost),	240 "	8 "	106 50
Lexington avenue,	14 "	6 "	29 80
Lyman street,	475 "	8 "	478 15
Massasoit street,	366 "	6 "	231 44
Montmorenci street,	16 "	6 "	30 41
Montrose street,	978 "	6 "	534 07
Marble street (two-thirds cost),	1084 "	8 "	684 73
North street,	181 " 694 "	1¼ " 6 "	404 35
Norfolk street,	1200 "	6 "	666 45
Oxford street,	26 "	6 "	38 46
Park avenue,	403 "	6 "	232 96
Ridgewood terrace,	587 "	6 "	426 08
Rutland avenue,	141 " 37 "	1¼ " 3 "	24 23
Amount carried forward,			$11,114 43

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STREET.	PIPE.	SIZE.	COST.
Amount brought forward,			$11,114 43
Shattuck street, . . .	370 feet,	6 inches,	186 73
Spruceland avenue, . .	484 "	6 "	280 62
Summer street (one-half cost),	890 "	8 "	388 93
Talcott avenue, . . .	333 "	6 "	188 05
Warriner avenue, . .	363 "	6 "	289 43
Warren avenue, . . .	190 "	2 "	54 63
Wilbraham road, . .	900 "	12 "	988 34
Total net cost, . .			$13,491 16

HYDRANT EXTENSIONS.

(Not charged to streets.)

Main street at Railroad row, . . .	$66 21	
Central street at Stearns Terrace, . .	97 47	
Total net cost, ...		163 68
Total charged "Distribution mains—general,"		$13,654 84

STANDPIPES—FOR STREET SPRINKLING.

Dwight street, at Sanford, . . .	$36 02	
State street, near No. 946, . . .	34 38	
Amherst street, at Princeton, . . .	43 68	
North Main street, at Grace, . . .	38 89	
Carew street, at brickyard, ...	37 51	
Total net cost, ...		$190 48

MAINTENANCE.

MANAGEMENT AND REPAIRS.

Salaries, ...	$7,343 92	
Inspection, ...	2,866 13	
Teams (balance undivided), . . .	1,067 54	
Tools and machines (net loss), . . .	658 27	
Office furniture and fixtures (net loss), .	887 68	
Stationery and printing, . . .	465 79	
Office account, ...	372 68	
Expense account, ...	327 31	
Telephone service, ...	134 27	
Off and on (services), ...	207 50	
Refunds, ...	45 70	
Expense, city departments, . . .	160 10	
Petty maintenance, ...	105 99	
Amount carried forward,		$14,642 88

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Amount brought forward,		$14,642 88
Care and repairs, Van Horn Reservoir,	576 35	
" " Ludlow Reservoir,	1,060 29	
" " Belchertown Reservoir,	844 02	
" " Chapin Pond, " " Emergency supply,	44 43	
" " Ludlow main No. 1, (24"),	248 03	
" " Van Horn mains,	9 66	
" " Distribution mains, C. I.,	245 64	
" " " " W. I.,	208 37	
" " Gates and valves,	74 86	
" " Hydrants,	147 11	
" " Standpipes,	187 76	
" " Drinking fountains,	20 03	
" " Meters,	34 70	
" " Services,	525 78	
" " Private telephone lines,	42 95	
" " Indian Leap bridge,	14 33	
		4,284 31
Repairs, keeper's house, Van Horn reservoir,	17 96	
" No. 37 Bridge street,	85 00	
" No. 43 Bridge street,	285 95	
" Stable, Bridge street,	95	
" No. 49 Bridge street,	120 28	
		510 14
Total net cost,		$19,437 33

INTEREST ON BONDS.

$1,000,000 at 7%, 6 months,	$35,000 00*	
975,000 at 7%, 6 months,	34,125 00*	
200,000 at 6%, 12 months,	12,000 00	
125,000 at 2½%, 12 months,	4,375 00	
350,000 at 4%, 12 months,	14,000 00	
Total cost,		$99,500 00

TAXES.

On reservoir property at Belchertown,	$ 50 77
On reservoir property at Ludlow (per Acts of 1893),	158 27
Total,	$209 04

*(25—$1,000, 7% bonds, due and paid April 1, 1894.)

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DISTRIBUTION MAINS—RENEWALS.

STREET.	PIPE.	SIZE.	COST.
Beech street (one-fifth cost),	560 feet	6 inches	81 17
Kibbe avenue (one-half cost),	240 "	8 "	106 50
Marble street (one-third cost),	1084 "	8 "	342 36
Summer street (one-half cost),	890 "	8 "	388 93
Total net cost,			$918 96

LEGAL EXPENSE.

Account of Jabish brook mill cases, . .	5,238 16
Account of Belchertown's proposed supply, .	164 25
Account of claim for damages, C. W. Alden, .	18 50
Account of valuation reservoir property for taxes, ...	125 27
Total, ...	$5,546 18

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GENERAL MISCELLANEOUS STATEMENTS.

FINES AND PENALTIES.

The following figures show the number of fines and penalties (of $2 each) due, charged, collected, abated and uncollected during 1894 the number charged being also the number of premises ordered shut off to enforce payment of same.

DIVISIONS.	For Unp'd Bills.		For Waste unchecked.	Total Number.
	Due Before 1894.	Due in 1894.		
Number uncollected 1893, ...	2	0	0	2
Number charged 1894, ...	0	67	3	70
Total charged collector, . . .	2	67	3	72
Number collected 1894, ...	2	54	2	58
Number abated 1894, ...	0	5	1	6
Number uncollected 1894, ...	0	8	0	8
Total, as above, ...	2	67	3	

METERS AND INDICATORS.

Total number in use October 1, 1893, ...		1,682
Number of meters (on service pipes) added (net), . .	269	
Number of indicators (on elevators and motors) discontinued (net), ...	4	
Net total number added to October 1, 1894, . .	——	265
Total number in use October 1, 1894 (see table of same, following), ...		1,947

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Total quantity of water metered during 1894,	280,258,913 gallons
Average quantity metered per meter or indicator, ...	143,944 "
Total amount charged during 1894, . .	$46,207 73
Average amount charged per meter or indicator, ...	$23 73–|–
Average rate charged per 1,000 gallons, .	16–|– cents

TABLE OF METERS AND INDICATORS.

(*To October* 1, 1894.)

Kind and Size.	½"	⅝"	¾"	1"	1½"	2"	3"	4"	Indicators.	Totals
Meters.										
Ball & Fitts, Piston			2							2
Crown	571		455	46	12	11	1	1		1,097
Desper	7		4			1				12
Empire				3						3
Hersey		243	300	22	11	8		4		588
Nash	4									4
Thomson		7	6	2	1					16
Undine (and Hartford)	5		5	1						11
Union Duplex		2	1							3
Union Rotary		65	23	3	2	4				97
Worthington		13	7		3	3				26
										1,859
Indicators.										
Desper (for elevators)									59	59
Friction " "									4	4
Graves " "									7	7
Ross (for motors)									1	1
Whitney " "									7	7
Whittier (for elevators)									8	8
Worthington " "									2	2
Totals	587	330	803	77	29	27	1	5	88	1,947

INSPECTION.

The usual annual retrospection of this branch of the work must necessarily be of the same nature, and is largely a repetition from year to year. Therefore, as no new or especial feature has arisen during the past year, I have no new or especial remarks to offer at this time.

The amount of work has increased, as it has each preceding year, and the time is approaching when the addition of a fourth inspector will be needed. Especially will this become necessary if the number of meters continues to increase as it has

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within the last few years. The reading and inspection of meters during the past year required nearly *thirty-five per cent.* of the *entire time* of our *three* inspectors, while the clerical work of computing and billing the quarterly consumption through these meters has grown to be quite an important part of the office detail, in which the inspectors are obliged to assist at various times.

The usual classification of work done and time spent under inspection is shown as follows :—

CLASSIFICATION.	Inspectors.			Total. No. of Days.
	No. 1.	No. 2.	No. 3.	
	Days.	Days.	Days.	
Reading and inspection of meters	103	105	19	307
Turning off and on $8 hose		5		5
Inspection of hose use, general		26	22	48
General, or "house to-house" inspection	6	53	51	110
Semi-annual and monthly inspection (billing)	71			71
Monthly inspection of vacancies reported		5	49	54
Special inspection (account leaks, bills and collections)	12	27	35	74
Special inspection (real estate sales)	26			26
Office work	76	73	38	187
Totals (294 working days in the year)	294	294		882

The number of leaks and cases of waste discovered and corrected during 1894 is 415, or about the usual number.

There has been no notable change observed in human nature from one year to another; fixtures are added or changes are made, tending to increase the consumption or waste of water, which are evidently *so unimportant* in the eyes of the majority of water takers as to call for no mention of the fact at the Water Commissioners' office, notwithstanding the requirements of the rules and regulations of the Board, a copy of which rules and regulations is furnished each premises supplied, and which, in many cases, immediately becomes "lost!"

All honor to the few, whose loftier sense of their duty as citizens leads them to be as conscientious in their dealings with the "City" as they are always known to be in their private business; for a *few* such there are who *cheerfully* meet the requirements of the Commissioners' regulations, instead of showing the customary spirit of opposition.

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STATISTICS.

The usual statement showing the different classes of consumers supplied, together with the summary of statistics, recommended by the New England Water Works Association, will be found appended.

Respectfully submitted,

A. R. HATHAWAY, *Water Registrar.*

SPRINGFIELD, MASS., December 15, 1894.

BOARD OF WATER COMMISSIONERS, January 2, 1895.

Read, accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

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COMPARATIVE STATEMENT.

SHOWING THE CLASSES OF CONSUMERS AND THE NUMBER OF EACH CLASS SUPPLIED BY THE AQUEDUCT COMPANY IN 1864, AND BY THE CITY IN 1874, 1880, 1890, 1893, 1894.

	1864.	1874.	1880.	1890.	1893.	1894.
Bakeries,	. .	. .	8	15	25	31
Banks,	2	9	12	15	14	15
Barber Shops,	2	14	30	30	45	46
Baths,	. .	439	829	2654	4270	4747
Beer pumps,	. .	. .	. .	. .	51	47
Boarding Houses,	. .	33	55	97	120	108
Breweries,	. .	. .	2	2	2	2
Cemeteries,	. .	. .	1	5	6	6
Churches, Halls and Public Buildings,	2	12	14	60	61	63
Dyehouses and Bleacheries,	2	2	3	3	4	4
Elevators,	. .	. .	15	96	107	107
Families,	1288	3637	4893	8511	10500	11078
Fish tanks,	. .	. .	. .	8	11	8
Foundries,	4	5	6	12	11	12
Fountains (private),	. .	. .	12	18	11	11
Fountains (public),	. .	. .	. .	10	10	10
Gas Works,	. .	. .	1	1	2	2
Greenhouses,	2	3	9	8	13	11
Hose,	. .	. .	885	1857	2340	2629
Hotels,	7	12	15	20	20	19
Laundries,	. .	6	6	25	25	29
Manufactories,	6	50	80	78	70	64
Markets,	8	31	54	60	60	65
Motors,	. .	. .	13	44	39	37
Offices and Rooms,	. .	88	521	1088	1308	1453
Photographers,	. .	6	9	11	10	10
Printers and Publishers,	. .	. .	. .	25	21	26
Public Institutions,	. .	. .	. .	6	7	7
Railroads,	. .	. .	3	4	4	4
Restaurants,	5	14	17	24	29	28
Saloons,	9	34	32	45	45	43
Schools,	. .	12	15	33	34	37
Shops,	18	51	88	189	215	220
Slaughterhouses,	. .	. .	. .	1	1	1
Stables (private),	82	274	379	704	946	981
Stables (public),	6	14	23	30	30	31
Steam Engines,	. .	. .	48	74	81	84
Steam Heaters,	. .	. .	32	104	176	216
Stores,	125	225	320	359	430	440
Urinals,	. .	131	296	435	468	438
Water-closets,	. .	1192	2402	6792	9768	10475
Watering Tanks and Drinking Fountains.	. .	. .	. .	12	11	11

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SUMMARY OF STATISTICS,

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7. Average daily consumption (estimated), .	4,524,510 gallons
8. Gallons per day to each inhabitant (estimated) (1), ...	87
9. Gallons per day to each consumer (esti-	117
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17. Sizes from ½ to 6 inches.

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18.	Extended in 1894 (in feet.)		NOTE.—Services paid for entirely by the consumers, and no special statistics kept of them.
19.	Discontinued in 1894 (in feet.)		
20.	Total now in use (in miles)		
21.	Service taps added (net), . . .		482
22.	Number now in use, ...		7,482
23.	Average length of service,	(See note under 18, 19, 20.)	
24.	Average cost of service,		
25.	Meters added (including indicators), (net).		265
	(a) Meters added, . . .	269	
	(b) Indicators discontinued, . .	4	
26.	Number now in use (including indicators),		1,947
	(a) Meters (on supply pipes),	1,859	
	(b) Indicators (on elevators and motors), ...	88	
27.	Motors and elevators added (net), . .		—2
	(a) Motors added, 2; discontinued, 4.		
	(b) Elevators added, 8; discontinued, 8.		
28.	Number now in use, ...		144
	(a) Motors, ...	37	
	(b) Elevators, ...	107	

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REPORT OF THE SUPERINTENDENT.

To the Board of Water Commissioners:

GENTLEMEN:—I herewith submit the twenty-first annual report of the Superintendent, for the year ending November 30, 1894.

The amount of pipe laid, and the number of gates and fire hydrants set (exclusive of "Ludlow Main No. 2"), the amount of pipe discontinued, and the number of gates and fire hydrants taken out, are shown in the following tables.

MAIN PIPE LAID, GATES AND HYDRANTS SET.

NUMBER.	Extensions.	Renewals	Private.	Totals.
Ft. of Pipe laid—High service.	15,813	567	704	17,084
Ft. of Pipe laid—Low service.	4,391	1,112	529	6,032
Totals laid.....	20,204	1,679	1,233	23,116
Added by purchase.....	76			76
Totals.....	20,280	1,679	1,233	23,192
Gates set—High service.....	28	0	54	82
Gates set—Low service.....	13	3	19	35
Totals.....	41	3	73	117
Fire hydrants set–High service	21	1	2	24
Fire hydrants set–Low service	7	2	0	9
Totals.....	28	3	2	33

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MAIN PIPE, GATES AND HYDRANTS TAKEN OUT OR ABANDONED.

NUMBER.	TOTALS.
Feet of Pipe—High service	1,671
Feet of Pipe—Low service	3,686
Total	5,357
Gates—High service	9
Gates—Low service	9
Total	18
Fire hydrants—High service	1
Fire hydrants—Low service	2
Total	3

There are now in use—including the new Ludlow main—117.21 miles of supply and distribution mains, a net addition of 3.38 miles of distribution mains this season, besides the 10.86 miles of the new Ludlow main. 654 service taps have been made, a net addition of 482 in use.

The total number now connected with the works is 7,482.

RAINFALL.

The table which follows, shows the amount of rain and melted snow in inches, as registered at Belchertown, Ludlow, the U. S. Armory and the City Engineer's office in this city, during the year ending November 30, 1894.

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MONTHS.	Belchertown. Inches.	Ludlow Reservoir. Inches.	U. S. Armory. Inches.	Engineer's Office. Inches.
December, 1893.....	4.19	4.56	4.04	3.42
January, 1894.....	3.96	2.32	2.30	0.93
February, 1894.....	3.94	2.37	2.13	1.36
March, 1894.....	1.47	1 12	1.87	1.39
April, 1894.....	2.12	2.00	1.93	1.21
May, 1894.....	2.95	3.29	3.59	3.10
June, 1894.....	1.05	2.01	2.06	1.95
July, 1894.....	1.64	2.03	2.52	2.18
August, 1894.....	0.76	0.34	0.93	0.70
September, 1894.....	3.56	3.42	5.31	4.42
October, 1894.....	3.77	3.98	4.98	4.32
November, 1894.....	3.86	4.07	4.23	3.36
Total.....	33.27	32.01	35.89	28.34
Mean.....	2.77	2.66	2.99	2.36

The rainfall has been very small this season (11.05 inches less than the average for the past eighteen years) but we have had at all times an ample supply of water, and of an acceptable quality.

MAINTENANCE.

Five thousand three hundred and fifty-seven feet of pipe have been taken out or abandoned. I would recommend that Summer street be relaid in the early spring before the block paving, which has been ordered in this street, is put in.

Thirty-seven leaks have been repaired this season, an average of $\frac{31}{100}$ to the mile of pipe in use.

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The following table shows the size and kind of pipe on which they occurred:—

KIND OF PIPE.	2″	3″	4″	6″	8″	12″	16″	24″	30″	36″	Totals.
Cement lined, . .	1	5	1	6	2	0	1	8	0	0	24
Cast-iron, . . .	0	0	1	1	1	4	3	1	2	0	13
Totals, . . .	1	5	2	7	3	4	4	9	2	0	37

LUDLOW MAIN NO. 2.

The new Ludlow main has been completed, and the water was turned on August 27. It has been in constant use since that time, nothing occurring to necessitate shutting off the water, which fact speaks well for the manner in which the pipe was laid. It is not unusual for breaks to occur on a new line of pipe of this size and length, when the water is first let on, but this line has given us no trouble to date. The laying of this additional main is a great supplement to our water system, not only increasing the fire supply, but furnishing the city water in case the old main should be shut off for any purpose (as it has once been, since the new main was laid) without inconveniencing the public, or endangering the fire protection.

INVENTORY.

The amount of stock, tools and fixtures on hand December 1, 1894, is $14,520.47.

STATISTICS.

Annexed will be found tables showing the size and location of pipe laid, gates and hydrants set, pipe, gates and hydrants

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taken out; also location of fountains, fire reservoirs, watering tanks, fire hydrants, standpipes, and main and distribution pipe.

Respectfully submitted,

J. C. HANCOCK, *Superintendent.*

December 15, 1894.

BOARD OF WATER COMMISSIONERS, January 2, 1895.

Read, accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

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WATER PIPE LAID AND TAKEN OUT IN 1894.

INCLUDING ALL CHANGES IN PIPE TABLES.

LOCATION.	Size.	Material.	Length in Feet.		
			High Service.	Low Service.	Totals.
Pipe Laid by Private Parties.					
Boston ave., so. from Boston road	1¼"	Wrought-iron.	172	....	
Orleans Court w. from Orleans st.	1¼"	"	182	....	
Wight avenue, east from 6"	1¼"	"	....	209	
Woodbine avenue, north from 4"	1¼"	"	192	....	755
Webster ave., south from Pearl st.	1⅛"	"	....	142	142
Raymond ave., no. from Carew st.	2"	"	158	....	
Richelieu pl., east from Richelieu st.	2"	"	....	145	303
Total wrought-iron laid by private parties				496	1,200
Butler street, east from 6"	4"	Cast-iron.		33	33
Pipe Laid by City.					
North street, south from Calhoun	1¼	Wrought-iron.	...	181	
Rutland avenue, north from Wilbraham road	1¼"	"	141	....	322
Greene st. ave. north from Greene st	2"	"	200	....	
Warren avenue, west from Hancock street (purchased)	2"	"	76	....	276
Rutland avenue, north from 1¼"	3"	"	37	....	37
Total wrought-iron laid by city			454	181	635
Butler street, extension east	4"	Cast-iron.	....	144	
Clifford street	4"	"	505	....	
Hydrants, sundry sts., as follows:	4"	"	....	...	
Acushnet avenue	....	.....	....	10	
Alexander street	....	.....	....	6	
Allendale street	...	.....	....		
Beech street	....	.....	7	....	
Berkshire st., Indian Orchard	....	.....	14	....	
Bond place	....	.....	3	....	
Cass street	....	.....	4	....	
Clifford street	....	.....	5	....	
Collins street	....	.....	6	....	
Cortland street	....	.....	7	....	
Dawes street	....	.....	6	....	
Euclid avenue	....	.....	16	....	
Firglade avenue	....	.....	5	....	
Hancock street	....	.....	9	....	
Hyde avenue	....	.....	11	....	
Norfolk street	....	.....	14	....	
Ridgewood place	....	.....	14	....	
Spruceland avenue	....	.....	11	....	
Warriner avenue	....	.....	....	10	818

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WATER PIPE LAID, ETC., IN 1894.—CONTINUED.

LOCATION.	Size.	Material.	Length in Feet.		
			High Service.	Low Service.	Totals.
Acushnet avenue, east from Main	6"	Cast-iron.	....	803	
Alden st., Eastern ave. to Logan st.	6"	"	552	....	
Alexander street	6"	"	....	762	
Allendale street	6"	"	....	684	
Beech street	6"	"	560	....	
Berkshire street, Indian Orchard, east from Myrtle	6"	"	456	....	
Bond place	6"	"	191	....	
Cass street, Liberty to Franklin	6"	"	596	....	
Collins st., east from Eastern ave.	6"	"	539	....	
Cortland st., south from Shattuck	6"	"	627	....	
Dawes street	6"	"	1,250	....	
Euclid avenue	6"	"	1,163	....	
Firglade avenue, extension	6"	"	288	....	
Fort Pleasant avenue, north from Sumner	6"	"	1,176	....	
Hancock street, south of Central, extension	6"	"	412	....	
Hyde avenue, west from Fisk	6"	"	930	....	
HYDRANTS, sundry sts. as follows:	6"	"			
Central street		.....	11	....	
Marble street		.....	....	28	
Montrose street		.....	8	....	
Summer street		.....	16	....	
Lexington avenue, west from Massasoit st., (completion)	6"	Cast Iron.	....	16	
Massasoit street, extension north	6"	"	....	36	
Massasoit street, Lexington avenue to Montmorenci street	6"	"	....	330	
Montmorenci street, west from Massasoit (completion)	6"	"	....	14	
Montrose street, south from Burr	6"	"	978	....	
Norfolk street, south from Wilbraham road	6"	"	1,200	....	
North street, Calhoun to Waverly	6"	"	....	696	
Oxford street, east from Fort Pleasant avenue	6"	"	26	....	
Park avenue, south from Sumner	6"	"	403	....	
Ridgewood place	6"	"	587	....	
Shattuck street, Willard avenue to Cortland street	6"	"	370	....	
Spruceland avenue, west from Magnolia terrace	6"	"	484	....	
Talcott avenue, (completion)	6"	"	....	343	
Warriner ave., east from Locust st.	6"	"	....		16,885
Kibbe avenue	8"	"	240	....	
Lyman street, Dwight to Chestnut	8"	"	475	....	
Marble street, east from Main	8"	"	....	1,084	
Summer street, Kibbe avenue to Federal	8"	"	891	....	2,690
Wilbraham road, extension to Norfolk street	12"	"	900	....	900
Ludlow reservoir, distributing canal to cut-off basin	36"	"	36	....	36
Total cast-iron laid by city			16,002	5,322	21,324
Total wrought-iron laid by city (forward)			454	181	635
Total cast-iron laid by private parties (forward)			....	33	33
Total wrought-iron laid by private parties (forward)			704	496	1,200
Total amount added, 1894			17,160	6,032	23,192

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WATER PIPE LAID, ETC., IN 1894.—CONCLUDED.

LOCATION.	Size.	Material.	Length in Feet.		
			High Service.	Low Service.	Totals.
Total amount added, 1894 (forward)	....	.....	17,160	6,032	23,192
Pipe Taken Out or Abandoned.					
Warriner avenue, north side, east from Locust st. (P)	1"	Wrought-iron.	....	250	250
Cass street, Liberty to Franklin (including private pipe bought by city before taken out)	1¼"	"	....	645	
Hyde avenue, west from Fisk (P)	1¼"	"	....	218	
Talcott avenue west from 6" cement lined	1¼"	"	....	181	
Warriner avenue, south side, east from Locust street (P)	1¼"	"	....	319	1,863
Beech street, south from Florence	1½"	"	273	...	273
Beech street, north from Central	2"	"	283	....	
Euclid avenue, north from Belmont (P)	2"	"	1,115	....	1,398
Marble street	3"	"	....	1,063	
School street, State to High	3"	"	....	550	1,613
Summer st., east from Kibbe ave.	6"	Cement-lined.	....	460	460
Total amount taken out or abandoned, 1894			1,671	3,686	5,357
Net addition to tables, 1894 (general account)			15,489	2,346	17,835
Special Account.					
NEW SUPPLY MAIN, No. 2.					
(Laid in 1893 and 1894) as follows:					
Ludlow reservoir, dam to intersection of Main No. 1	36"	Cast-iron.	13,388		
Ludlow reservoir, intersection of Main No. 1 to 24" (in Carew st.)	30"	"	39,899		
Ludlow reservoir, 30" (in Carew st.) to Chestnut st.	24"	"	2,380		
Ludlow reservoir, Chestnut street, (in Carew st.) to Main st.	20"	"	1,670		57,337
Total net addition to pipe tables, 1894		.....	72,826	2,346	75,172

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GATES SET IN 1894.

ONE-INCH.

Howard street, near railroad (connecting),	Low,	1	
Union street, near river (flush),	Low,	1	
		—	2

ONE AND ONE-QUARTER INCH.

Boston avenue, at State street (private),	High,	1	
Greene street avenue, at Greene street,	High,	1	
Marble street, at end of street (flush),	Low,	1	
North street, at Calhoun,	Low,	1	
North street, north of Hebron (flush),	Low,	1	
Orleans court, at Orleans street (private),	High,	1	
Rutland avenue, at Wilbraham road,	High,	1	
Warren avenue, at Hancock street,	High,	1	
Webster avenue, at Pearl street, south (private),	Low,	1	
Wight avenue, for L. W. Besse,	Low,	1	
Woodbine avenue, end of 4″ (private),	High,	1	
		—	11

TWO-INCH.

Beech street, opposite No. 40 (flush),	High,	1	
Calhoun street, near Chestnut (flush),	Low,	1	
Catharine street, near No. 93 (flush),	High,	1	
Central street ave., near Central street (flush),	High,	1	
Clarendon street, near No. 145 (flush),	High,	1	
Eastern avenue, near No. 176 (flush)	High,	1	
Madison avenue, opposite No. 39 (flush),	High,	1	
Mechanic street, near railroad (flush),	Low,	1	
Nelson avenue, near No. 16 (flush),	High,	1	
Raymond avenue, at Carew street (private),	High,	1	
Richelieu place, at Richelieu street (private),	Low,	1	
Rutland avenue, near Mrs. Spelman's (flush)	High,	1	
Stebbins street, near No. 8 (flush),	High,	1	
Willow street, at State (flush),	High,	1	
		—	14

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THREE-INCH.

Andrew street, at Dawes (flush),	High,	1	
Ashley street, near Hancock (flush),	High,	1	
Burr street, near No. 58 (flush),	High,	1	
Cambridge street, at Burr (flush),	High,	1	
Churchill street, near Garfield (flush),	High,	1	
College street, near No. 204 (flush),	High,	1	
Fulton street, near Clinton (flush),	Low,	1	
Greenleaf street, near Garfield (flush),	High,	1	
Long Hill street, near Sumner avenue (flush),	High,	1	
Margaret street, at foot (flush),	Low,	1	
Park avenue, near Garfield street (flush),	High,	1	
Thompson street, near St. James ave. (flush),	High,	1	
		—	12

FOUR-INCH.

Allendale street, near Chestnut (flush),	Low,	1
Beech street, at No. 40 (flush),	High,	1
Bridge street, for Nos. 107-109,	High,	1
Bridge street, opposite No. 60 (flush),	Low,	1
Buckingham street, near No. 190 (flush),	High,	1
Butler street, near Cass (flush),	Low,	1
Clarendon street, near No. 15 (flush),	High,	1
Clifford street, at Bay,	High,	1
Clifford street, at Berkeley,	High,	1
Dawes street, at Andrew,	High,	1
Euclid avenue, at Dickinson street (flush),	High,	1
Gray's avenue, opposite No. 46 (flush),	Low,	1
Hebron street, at Chestnut (flush),	Low,	1
Howard street, top of hill (flush),	Low,	1
King street, at Logan (flush),	High,	1
Ladd street, at Logan (flush),	High,	1
Lyman street, for J. S. Noble,	High,	1
Madison ave., for C. L. Goodhue, Central st.,	High,	1
Main street, at No. 390,	High,	1
Main street, I. O., near No. 333 (flush),	High,	1
Maple street, at Mill, for Springfield Webbing Co.,	High,	1
Margaret street, for Street Railway Co.,	Low,	1
Massasoit street, near No. 61 (flush),	Low,	
Massasoit street, near Lexington ave. (flush),	Low,	1
Oak street, I. O., at Essex (flush),	High,	1
Pine street, near No. 15 (flush),	High,	1
Quincy street, near Eastern avenue (flush),	High,	1

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State street, N.W. corner Willow, for Y.M.C.A.,	High,	. . 1	
Taylor street, for N. D. Bill, ...	High,	. . 1	
Taylor street, at Nos. 39–41, for Houghton & Frazer, ...	High,	. . 1	
Taylor street, for Cheney Bigelow Wire Works,	High,	. . 1	
Union street, at Main (flush), ...	Low,	. . 1	
Walnut street, at Lebanon, (flush), ...	High,	. . 1	
Warriner avenue, at Locust street, ...	Low,	. . 1	
Willow street, at Park (flush), ...	Low,	. . 1	
Worthington street, for Daily News, ...	High,	. . 1	
		—	36

SIX-INCH.

Acushnet avenue, at Main street, ...	Low,	. . 1
Alexander street, at Chestnut, ...	Low,	. . 1
Alexander street, at North, E., ...	Low,	. . 1
Alexander street, at North, W., ...	Low,	. . 1
Allendale street, at North, ...	Low,	. . 1
Beech street, at Central, ...	High,	. . 1
Beech street, at Florence, ...	High,	. . 1
Berkshire street, I. O., at Myrtle, ...	High,	. . 1
Bond Place, for L. W. Besse, ...	High,	. . 1
Bond Place, at Bridge street, ...	High,	. . 1
Cass street, at Liberty, ...	High,	. . 1
Central street, at Stearns terrace, for hydrant,	High,	. . 1
Collins street, at Eastern avenue, ...	High,	. . 1
Dawes street, at Bay, ...	High,	. . 1
Dwight street, for Elisha Morgan, ...	High,	. . 1
Euclid avenue, at Belmont, ...	High,	. . 1
Fisk avenue, for Holyoke C. & P. Co., . . .	High,	. . 1
Lexington avenue, at Massasoit street, . . .	Low,	. . 1
Lyman street, for Cutler & Porter, ...	High,	. . 1
Main street, at Nos. 305–309, for J. T. Abbe, .	High,	. . 1
Montmorenci street, at Massasoit, ...	Low,	. . 1
Montrose street, at Burr, ...	High,	. . 1
Norfolk street, at Wilbraham road, ...	High,	. . 1
North street, at Calhoun, ...	Low,	. . 1
North street, at Waverley, ...	Low,	. . 1
Oxford street, at Fort Pleasant avenue, . . .	High,	. . 1
Park avenue, at Sumner, ...	High,	. . 1
Pynchon street, for Forbes & Wallace, . . .	High,	. . 1
Ridgewood place, at Union, ...	High,	. . 1
Ridgewood place, at Mulberry, ...	High,	. . 1
Shattuck street, at Willard avenue, ...	High,	. . 1
Spruceland avenue, at Magnolia terrace, . . .	High,	. . 1

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Taylor street, for C. Bigelow Wire Works,	High,	1	
Taylor street, for Wilkinson estate,	High,	1	
Water street, at Fort (con. 12″ and 6″),	Low,	1	
Worthington street, for A. N. Mayo,	High,	1	
		—	36

EIGHT-INCH.

Fort Pleasant avenue, at Sumner,	High,	1	
Kibbe avenue, at Worthington street,	High,	1	
Lyman street, at Dwight,	High,	1	
Marble street, at Main,	Low,	1	
Summer street, at Federal,	High,	1	
Summer street, at Kibbe avenue,	High,	1	
		—	6
* Total number of gates added in 1894,			117

* NOTE:—The location of a number of gates on "Ludlow Main No. 2," unknown at date, and therefore not included in above.

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GATES TAKEN OUT IN 1894.

(INCLUDING THOSE ABANDONED.)

ONE-INCH.			
Beech street, at Central,	High,	1	
Beech street, at Florence,	High,	1	
Beech street, at No. 40 (flush),	High,	1	
Warriner ave., at Locust st., no. side (private),	Low,	1	
		—	4
ONE AND ONE-QUARTER-INCH.			
Cass street, at Liberty (private),	Low,	1	
Eastern avenue, near No. 176 (flush),	High,	1	
Hyde avenue, at Fisk (private),	Low,	1	
Pine street, at No. 15 (flush),	High,	1	
Talcott avenue, at Fisk,	Low,	1	
Warriner ave., at Locust st., so. side (private),	Low,	1	
		—	6
TWO-INCH.			
Beech street, opposite No. 40 (flush),	High,	1	
Euclid avenue, at Dickinson street (flush),	High,	1	
Euclid avenue, at Belmont (private),	High,	1	
Walnut street, at Lebanon (flush),	High,	1	
		—	4
TWO AND ONE-HALF-INCH.			
Marble street, east end (flush),	Low,	1	
		—	1
THREE-INCH.			
School street, at State,	Low,	1	
		—	1
FOUR-INCH.			
Marble street, at Main,	Low,	1	
		—	1
SIX-INCH.			
Summer st., midway, Kibbe ave. and Federal st.,	Low,	1	
		—	1
Total,			18

Number of gates December 1, 1893,		1,208
Number of gates added in 1894,	117	
Number of gates taken out in 1894,	18	
Net addition in 1894,		99
Total number of gates December 1, 1894,		1,307

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FIRE HYDRANTS SET IN 1894.

HIGH SERVICE.

Beech street, E. side, midway,	1	
Berkshire street, I. O., N. side,	1	
Bond place, W. side, S. end,	1	
Cass street, S. E. corner Franklin,	1	
Central street, at Stearns Terrace,	1	
Clifford street, S. side, midway,	1	
Collins street, near N. W. corner Logan,	1	
Cortland street, W. side, midway,	1	
Dawes street, W. side, midway,	1	
Euclid avenue, N. side, midway,	1	
Euclid avenue, N. W. corner Dickinson street,	1	
Hancock street, W. side, S. of Central, at end,	1	
Hyde avenue, S. E. corner Plainfield,	1	
Montrose street, E. side, midway,	1	
Norfolk street, S. E. corner Wilbraham road	1	
Norfolk street, E. side, end of pipe,	1	
Pynchon street, at engine house,	1	
Ridgewood place, N. W. corner Mulberry,	1	
Ridgewood place, S. W. corner Union,	1	
Spruceland avenue, S. W. corner Magnolia Terrace,	1	
Summer street, S. W. corner Federal,	1	
Summer street, S. E. corner Kibbe avenue.	1	
	—	22

LOW SERVICE.

Acushnet avenue, N. side, midway,	1	
Acushnet avenue, N. side, end of pipe,	1	
Alexander street, N. E. corner North,	1	
Allendale street, N. side, midway,	1	
Howard street, N. W. corner Water,	1	
Marble street, N. E. corner Main,	1	
Marble street, N. side, midway,	1	
Marble street, N. side, E. end,	1	
Warriner avenue, N. side, end of pipe,	1	
	—	9
Total number city hydrants set in 1894,		31

HIGH SERVICE—PRIVATE.

Mill street, foot of Maple, for Springfield Webbing Co.,	1	
Rear of Nos. 362–366 Main street, for L. W. Besse,	1	
	—	2

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FIRE HYDRANTS TAKEN OUT IN 1894.

HIGH SERVICE.

Pynchon street, at engine house, ...	1	
		1

LOW SERVICE.

Howard street, N. W. corner. Water, ...	1	
Marble street, N. side, midway, ...	1	
		2
Total number city hydrants taken out in 1894, . .		3

Number of city hydrants as per report, December 1, 1893, (corrected), ...			689
Number of city hydrants set in 1894, . . .		31	
Number of city hydrants taken out in 1894, . .		3	
Net addition, 1894, ...			28
Total number of city hydrants, December 1, 1894,			717
High service, ...	494		
Low service, ...	223		
Number of private hydrants, December 1, 1893, .		80	
Number of private hydrants set in 1894. . .		2	
Total number of private hydrants, Dec. 1, 1894,			82
Total number of hydrants connected with the works, December 1, 1894,			799

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STANDPIPES

CONNECTED WITH THE WORKS.

Allen street, at Mill,	High,	1
Amherst street, at Princeton,	High,	1
Armory street, north of Grant,	High,	1
Armory street, at Liberty,	High,	1
Bay street, near Buckingham,	High,	1
Bay street at Marion,	High,	1
Byers street, at Pearl,	High,	1
Carew street, at brickyard,	High,	1
Central street, at Spruce,	High,	1
Chestnut street, at Montmorenci,	Low,	1
Chestnut street, at Everett,	Low,	1
Chestnut street, at Franklin,	Low,	1
Cypress street, at Main,	High,	1
Dwight street, at Sanford,	High,	1
Dwight street, at Hillman,	High,	1
Dwight street, at Taylor,	High,	1
Eastern avenue, at Alden street,	High,	1
Eastern avenue, at King street,	High,	1
Fulton street, at Auburn,	Low,	1
Hancock street, at Alden,	High,	1
Hancock street, near State,	High,	1
King street, at Hancock,	High,	1
Liberty street, nearly opposite No. 385,	High,	1
Linden street, at Cass,	Low,	1
Loring street, at Water,	High,	1
Magazine street, at Worthington,	High,	1
Main street, at Tenth,	High,	1
Main street, at Loring,	High,	1
Main street, at Locust,	High,	1
Maple street, at Central,	High,	1
Mill street, at Locust,	High,	1
Monroe street, at Eastern avenue,	High,	1
Mulberry street, east of School,	High,	1
North street, at Osgood,	Low,	1
North Main street, at Arch,	High,	1
North Main street, at Carew,	High,	1
North Main street, south of Grace,	Low,	1
Oak street, at Walnut,	High,	1

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Pine street, at Mill,	High,	1	
Pine street, at Maple,	High,	1	
Pine street, at Central,	High,	1	
Pine street, near Walnut,	High,	1	
Plainfield street, at John,	Low,	1	
Quincy street, at Hancock,	High,	1	
Spring street, at Worthington,	High,	1	
South street, near Mill river,	High,	1	
State street, at Byers,	High,	1	
State street, at Federal,	High,	1	
State street, east of Montrose,	High,	1	
St. James avenue, near Bay street,	High,	1	
St. James avenue, north of Princeton street,	High,	1	
Sumner avenue, at Jackson street,	High,	1	
Union street, at Mulberry,	High,	1	
Walnut street, at Manhattan street,	High,	1	
Walnut street, at Queen,	High,	1	
Water street, at Worthington,	Low,	1	
Water street, at Court,	Low,	1	
Water street, at Howard,	Low,	1	
Wilbraham road, at engine house,	High,	1	
Willow street, at Park,	High,	1	
Worthington street, near Autumn,	High,	1	
Worthington street, at Kibbe avenue,	High,	1	
Worthington street, at Florida,	High,	1	
Worthington street, at Thompson park,	High,	1	
Total,			64

WATERING TANKS AND DRINKING FOUNTAINS
CONNECTED WITH THE WORKS.

Court street, at Court Square,	1	
Dwight street, at Worthington,	1	
Liberty street, at Armory,	1	
Main street, at Mill,	1	
Main street, Indian Orchard, at Oak,	1	
Mill street, at Water Shops,	1	
North Main street, opposite Bradford,	1	
State street, at Federal,	1	
State street, at Winchester park,	1	
State street, at Indian Orchard road,—opposite Catholic cemetery,	1	
Water street, at Court,	1	
Total,		11

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PUBLIC PARKS AND FOUNTAINS

CONNECTED WITH THE WORKS.

Benton park, State street, between Federal and Magazine,	1	
Calhoun park, Chestnut street, between Calhoun and Jefferson avenue (no fountain),	1	
Clarendon park, Clarendon street, at Bay,	1	
Dartmouth park, Dartmouth street, at Bay,	1	
Kibbe park, Federal street, at Armory,	1	
McKnight park, Buckingham street, at Bay,	1	
Mill street park, Mill street, at Pine,	1	
Stearns park, between Bridge and Worthington streets,	1	
Thompson park, St. James avenue, at Worthington street,	1	
Winchester park, State street, at Wilbraham road,	1	
Total,		10

FIRE RESERVOIRS

CONNECTED WITH THE WORKS.

Bridge street, at Main,	1	
Central street, opposite Beech,	1	
Howard street, at Main,	1	
Lyman street, at Dwight,	1	
Main street, at Court Square,	1	
Main street, at State,	1	
Maple street, at Central,	1	
Maple street, near Cross,	1	
Pine street, at Central,	1	
Pynchon street, near Water,	1	
School street, at High,	1	
State street, near Elliott,	1	
Walnut street, at Hancock,	1	
Water street, opposite Walker,	1	
Total,		14

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FIRE HYDRANTS

CONNECTED WITH THE WORKS.

No.	High or Low.	Location.	Make.
1.	H.	N. W. corner No. Main and Bradford streets.	Chapman
2.	H.	S. E. corner No. Main and Church streets.	Chapman
3.	L.	S. E. corner No. Main and Morgan streets.	Brown
4.	H.	N. E. corner No. Main and Morgan streets.	Chapman
5.	H.	S. E. corner No. Main and Osgood streets.	Chapman
6.	L.	N. E. corner No. Main and Bancroft streets.	Chapman
7.	H.	N. E. corner No. Main and Bancroft streets.	Chapman
8.	L.	Arch street, north side, front of No. 36.	Chapman
9.	H.	N. W. corner No. Main and Arch streets.	Perkins
10.	L.	N. E. corner No. Main street and Jefferson avenue.	Chapman
11.	H.	S. E. corner No. Main and Calhoun streets.	Chapman
12.	L.	N. E. corner No. Main and Calhoun streets.	Chapman
13.	L.	N. W. corner No. Main and Hooker streets.	Chapman
14.	H.	N. E. corner No. Main and Grove streets.	Chapman
15.	H.	N. W. corner No. Main and Walter streets.	Chapman
16.	H.	S. W. corner No. Main and Grace streets.	Chapman
17.	L.	Birnie avenue, at end of Grace street.	Ayers
18.	H.	S. E. corner Birnie avenue and Grace street.	Chapman
19.	L.	No. Main street, opposite Wason avenue.	Chapman
20.	L.	S. E. corner Wason and Fisk avenues	Matthews
21.	H.	S. W. corner Wason and Fisk avenues.	Chapman
22.	L.	Wason avenue, north side, opposite No. 31.	Chapman
23.	L.	S. E. corner Plainfield street and Wason avenue.	Chapman
24.	L.	N. E. corner Plainfield street and Hyde avenue.	Chapman
25.	L.	N. E. corner Plainfield street and Demond avenue.	Chapman
26.	H.	S. W. corner Fisk and Hyde avenues.	Chapman
27.	H.	S. W. corner Fisk and Demond avenues.	Chapman
28.	H.	Fisk avenue, east end of Holyoke Card and Paper Co's shop.	Chapman
29.	L.	N. W. corner Fisk and Worcester avenues.	Chapman
30.	L.	Worcester avenue, north side, midway.	Chapman
31.	L.	N. E. corner Plainfield street and Worcester avenue.	Chapman
32.	L.	N. W. corner Fisk and Talcott avenues.	Chapman
33.	H.	S. W. corner Fisk and Worcester avenues.	Chapman
34.	L.	N. W. corner Plainfield and Washburn streets.	Chapman
35.	L.	Washburn street, north side, midway.	Chapman
36.	L.	Washburn street, north side, at end of street.	Chapman

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No.	High or Low.	Location.	Make.
37.	L.	Lowell street, north side, at end of street.	Chapman
38.	L.	Lowell street, north side, midway.	Chapman
39.	L.	N. W. corner Plainfield and Lowell streets.	Chapman
40.	L.	Plainfield street, north side, at Fulton.	Chapman
41.	L.	Plainfield street, west side, near Reynolds.	Chapman
42.	L.	S. W. corner Plainfield and John streets.	Chapman
43.	L.	N. E. corner Fulton and John streets.	Chapman
44.	L.	N. E. corner Fulton and Bradford streets.	Chapman
45.	L.	Bradford street, north side, midway.	Chapman
46.	L.	N. E. corner Fulton and Sargeant streets.	Chapman
47.	H.	N. W. corner Main and Sargeant streets.	Chapman
48.	L.	Seventh street, north side, midway.	Perkins
49.	H.	S. W. corner Main and Seventh streets.	Chapman
50.	H.	S. W. corner Main and Auburn streets.	Chapman
51.	H.	N. W. corner Main and Holyoke streets.	Chapman
52.	H.	N. W. corner Main and Vine streets.	Chapman
53.	H.	N. W. corner Main and Clinton streets.	Chapman
54.	H.	S. W. corner Main and Emery streets.	Chapman
55.	H.	Emery street, north side, opposite Gray's avenue.	Chapman
56.	H.	N. E. corner Emery and Boylston streets.	Chapman
57.	H.	N. E. corner Fulton and Emery streets.	Chapman
58.	L.	N. E. corner Fulton and Cypress streets.	Perkins
59.	H.	N. E. corner Fulton and Cypress streets.	Chapman
60.	H.	N. E. corner Cypress and Boylston streets.	Chapman
61.	L.	Boylston street, east side, between Cypress and Emery streets.	Chapman
62.	H.	N. E. corner Gray's avenue and Cypress street.	Chapman
63.	L.	Gray's avenue, west side, midway.	Chapman
64.	H.	N. W. corner Cypress street and Cypress avenue.	Chapman
65.	L.	N. W. corner Main and Cypress streets.	Chapman
66.	H.	S. W. corner Main and Cypress streets.	Chapman
67.	L.	S. E. corner Water street and Railroad row.	Matthews
68.	H.	S. E. corner Water and Hampden streets.	Perkins
69.	H.	Hampden street, north side, midway.	Perkins
70.	L.	S. W. corner Main and Hampden streets.	Perkins
71.	L.	Fort street, south side, midway.	Chapman
72.	L.	S. E. corner Water and Fort streets.	Chapman
73.	L.	S. W. corner Main and Worthington streets.	Chapman
74.	L.	N. W. corner Main and Bridge streets.	Chapman
75.	H.	Bridge street, north side, opposite Bond place.	Chapman
76.	H.	Bridge street, south side, front of No. 43.	Matthews
77.	L.	N. E. corner Water and Bridge streets.	Chapman
78.	H.	N. W. corner Water and Bridge streets.	Chapman
79.	L.	Wight avenue, north side, at end of avenue.	Chapman
80.	L.	N. E. corner Water and Vernon streets.	Chapman

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No.	High or Low.	Location.	Make.
81.	L.	Vernon street, north side, midway.	Chapman
82.	H.	N. W. corner Main and Vernon streets.	Matthews
83.	L.	S. W. corner Main and Vernon streets.	Chapman
84.	H.	N. W. corner Main and Pynchon streets.	Matthews
85.	L.	S. W. corner Main and Pynchon streets.	Chapman
86.	H.	Pynchon street, south side, front of park.	Chapman
87.	H.	City Hall avenue, west side, midway.	Chapman
88.	L.	N. E. corner Water and Pynchon streets.	Chapman
89.	L.	Court street, south side, near Water.	Chapman
90.	L.	Court street, south side, midway.	Chapman
91.	H.	Court street, south side, opposite City Hall,	Perkins
92.	L.	N. W. corner Main and Court streets.	Chapman
93.	H.	S. W. corner Main and Court streets.	Chapman
94.	H.	N. W. corner Main and Elm streets.	Perkins
95.	L.	S. W. corner Main and Elm streets.	Chapman
96.	L.	Elm street, south side, midway.	Chapman
97.	L.	N. E. corner Water and Elm streets.	Chapman
98.	H.	N. E. corner Water and State streets.	Chapman
99.	L.	S. E. corner Water and State streets.	Chapman
100.	H.	State street, north side, near Court House.	Chapman
101.	L.	S. W. corner Main and State streets.	Chapman
102.	H.	N. W. corner Main and Bliss streets.	Chapman
103.	L.	S. W. corner Main and Bliss streets.	Chapman
104.	L.	Bliss street, south side, front of No. 29.	Chapman
105.	L.	Bliss street, south side, front of Nos. 57-59.	Chapman
106.	L.	N. E. corner Water and Bliss streets.	Chapman
107.	L.	Howard street, south side, near R. R.	Perkins
108.	L.	N. W. corner Water and Howard streets.	Chapman
109.	L.	Howard street, south side, front of No. 43.	Chapman
110.	H.	N. W. corner Main and Howard streets.	Chapman
111.	L.	S. W. corner Main and Howard streets.	Chapman
112.	L.	S. W. corner Main and Union streets.	Chapman
113.	L.	Union street, south side, midway between Main and Water streets.	Chapman
114.	L.	S. E corner Water and Union streets.	Chapman
115.	L.	Wilcox street, north side, near R. R.	Chapman
116.	L.	S. E. corner Water and Wilcox streets.	Chapman
117.	L.	Wilcox street, south side, front of No. 47.	Chapman
118.	H.	N. W. corner Main and Wilcox streets.	Chapman
119.	L.	S. W. corner Main and Wilcox streets.	Chapman
120.	L.	S. W. corner Main and William streets.	Chapman
121.	L.	William street, north side, front of No. 120.	Chapman
122.	L.	William street, north side, opposite No. 83.	Chapman
123.	L.	N. W. corner Water and William streets.	Perkins
124.	L.	William street, north side, near R. R.	Perkins

Digitized by Google

No.	High or Low.	Location.	Make.
125.	L.	Margaret street, north side, near R. R.	Chapman
126.	L.	N. E. corner Water and Margaret streets.	Chapman
127.	L.	Margaret street, south side, opposite Nos. 42–44.	Chapman
128.	H.	N. W. corner Main and Margaret streets.	Chapman
129.	L.	S. W. corner Main and Margaret streets.	Chapman
130.	L.	S. W. corner Main and Fremont streets.	Chapman
131.	L.	Fremont street, south side, front of No. 41.	Chapman
132.	L.	N. E. corner Water and Fremont streets.	Chapman
133.	L.	Whitney avenue, north side, end of avenue.	Chapman
134.	H.	Loring street, north side, front of No. 34.	Chapman
135.	H.	Water street, west side, near Loring.	Chapman
136.	H.	N. W. corner Main and Loring streets.	Chapman
137.	L.	Lombard street, north side, opposite No. 25.	Chapman
138.	H.	S. W. corner Water and Walker streets.	Chapman
139.	H.	Walker street, south side, near Walker's shop.	Chapman
140.	L.	Walker street, north side, midway.	Matthews
141.	H.	Walker street, south side, near R. R.	Chapman
142.	L.	N. E. corner Water and Gardner streets.	Perkins
143.	H.	Gardner street, south side, opposite Gardner avenue,	Chapman
144.	L.	Gardner street, north side, front of No. 96.	Chapman
145.	H.	S. E. corner Gardner and Hanover streets.	Chapman
146.	L.	N. E. corner Hanover and Norwood streets.	Perkins
147.	L.	Norwood street, south side, midway.	Chapman
148.	L.	N. W. corner Main and Norwood streets.	Chapman
149.	L.	S. W. corner Main and Broad streets.	Matthews
150.	L.	S. E. corner Hanover and Broad streets.	Matthews
151.	H.	Hanover street, east side, near Broad.	Chapman
152.	L.	Elmwood street, north side, near Barney & Berry's shop.	Chapman
153.	H.	Union street, north side, midway.	Chapman
154.	H.	N. W. corner Hanover and York streets.	Chapman
155.	L.	York street, north side, front of schoolhouse.	Chapman
156.	L.	N. W. corner Main and York streets.	Perkins
157.	L.	Main street, east side, at Locust.	Matthews
158.	H.	Main street, east side, opposite No. 962.	Matthews
159.	H.	South street, east side, opposite No. 5.	Chapman
160.	H.	S. E. corner South and Long Hill streets.	Chapman
161.	H.	Long Hill street, east side, near brick yard.	Chapman
162.	H.	Long Hill street, east side, north of Sumner avenue.	Chapman
163.	H.	N. E. corner Long Hill street and Sumner avenue.	Chapman
164.	H.	Long Hill street, east side, near schoolhouse.	Chapman
165.	H.	N. W. corner Sumner and Fort Pleasant avenues.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
166.	H.	Belmont avenue, west side, at Fort Pleasant avenue.	Chapman
167.	H.	Mill street, south side, midway between Locust and Main streets,	Matthews
168.	H.	Mill street, north side, opposite Howard's waste mill.	Perkins
169.	H.	Pine street, north side, at Mill.	Perkins
170.	H.	Belmont avenue, east side, opposite No. 134.	Chapman
171.	H.	Belmont avenue, east side, north of Euclid.	Chapman
172.	H.	N. E. corner Belmont avenue and Keith street.	Chapman
173.	H.	Keith street, north side, front of No. 51.	Chapman
174.	H.	N. W. corner Keith and Dickinson streets	Chapman
175.	H.	N. E. corner Belmont avenue and Hall street.	Chapman
176.	H.	Forest street, east side.	Chapman
177.	L.	Marble street, north side, midway, 6″.	Chapman
178.	L.	Main street, east side, opposite Gardner.	Perkins
179.	L.	Adams street, south side, midway.	Chapman
180.	L.	Ashmun street, east side, opposite Adams.	Chapman
181.	L.	Central street, north side, opposite No. 63.	Perkins
182.	H.	N. E. corner Main and Central streets.	Chapman
183.	H.	N. E. corner Main and Morris streets.	Chapman
184	L.	Morris street, east end, at angle.	Chapman
185.	L.	Winthrop street, north side, midway.	Chapman
186.	H.	N. E. corner Main and Winthrop streets.	Chapman
187.	H.	N. E. corner Main and William streets.	Chapman
188.	H.	William street, south side, midway between Main and Dale streets.	Chapman
189.	L.	N. W. corner William and Dale streets.	Chapman
190.	H.	N. E. corner Willow street and Hubbard avenue.	Perkins
191.	H.	S. E. corner Main street and Hubbard avenue.	Chapman
192.	H.	N. E. corner Main and Union streets.	Chapman
193.	H.	N. E. corner Union and Willow streets.	Perkins
194.	L.	S. E. corner Union and Dale streets.	Chapman
195.	H.	S. W. corner Park and Willow streets.	Perkins
196.	H.	N. E. corner Main and Park streets.	Chapman
197.	H.	S. E. corner Main and Cross streets.	Chapman
198.	H.	N. E. corner Willow and Cross streets.	Matthews
199.	H.	Cross street, south side, midway between Maple and Willow streets.	Chapman
200.	H.	S. E. corner Main street and Crossett avenue.	Chapman
201.	H.	S. E. corner Main and Stockbridge streets.	Chapman
202.	H.	N. E. corner Willow and Stockbridge streets.	Matthews
203.	H.	Stockbridge street, south side, just west of Smith & Wesson's shop.	Perkins

Digitized by Google

No.	High or Low.	Location.	Make.
204.	H.	Stockbridge street, south side, just east of Smith & Wesson's shop.	Perkins
205.	H.	N. W. corner State and Chestnut streets.	Matthews
206.	H.	N. E. corner State and Dwight streets.	Chapman
207.	L.	N. W. corner State and Dwight streets.	Chapman
208.	H.	S. E. corner State and Willow streets.	Perkins
209.	H.	N. W. corner State and Market streets.	Chapman
210.	H.	N. E. corner State and Main streets.	Matthews
211.	H.	N. E. corner Main and Sanford streets.	Matthews
212.	L.	S. W. corner Market and Sanford streets.	Chapman
213.	L.	Sanford street, north side, midway between Market and Dwight streets.	Chapman
214.	H.	Sanford street, north side, near Dwight.	Perkins
215.	L.	S. W. corner Dwight and East Court streets.	Chapman
216.	H.	N. W. corner Dwight and East Court streets.	Perkins
217.	H.	N. W. corner East Court and New streets.	Chapman
218.	H.	S. W. corner East Court and Market streets.	Chapman
219.	H.	S. E. corner Main and East Court streets.	Matthews
220.	H.	N. E. corner Main street and Townsley avenue.	Matthews
221.	H.	N. W. corner Market street and Townsley avenue.	Chapman
222.	H.	N. E. corner Harrison avenue and Dwight street.	Perkins
223.	L.	S. W. corner Harrison avenue and Dwight street.	Chapman
224.	L.	S. W. corner Harrison avenue and Market street.	Chapman
225.	H.	Main street, east side, opposite Pynchon.	Matthews
226.	H.	S. E. corner Main street and Harrison avenue	Chapman
227.	H.	Main street, east side, opposite Vernon.	Matthews
228.	H.	N. E. corner Main and Hillman streets.	Matthews
229.	H.	Hillman street, south side, front of Meekins, Packard & Co's block, Nos. 17-19½.	Perkins
230.	H.	Hillman street, south side, midway.	Chapman
231.	L.	S. W. corner Dwight and Hillman streets.	Chapman
232.	H.	N. W. corner Dwight and Hillman streets.	Chapman
233	H.	N. E. corner Bridge and Dwight streets.	Perkins
234.	L.	Bridge street, north side, at Stearns park.	Chapman
235.	H.	N. E. corner Main and Bridge streets.	Chapman
236.	H.	N. E. corner Main and Worthington streets.	Chapman
237.	L.	Worthington street, south side, front of No. 99.	Chapman
238.	H.	S. E. corner Worthington street and Stearns avenue.	Chapman
239	L.	S. E. corner Worthington and Dwight streets.	Perkins
240.	H.	N. W. corner Worthington and Dwight streets.	Chapman
241.	H.	N. E. corner Taylor and Dwight streets.	Perkins
242.	H.	Taylor street, north side, opposite No. 51.	Matthews
243.	H.	Taylor street, south side, front of No. 23.	Matthews
244.	H.	N. E. corner Main and Taylor streets.	Matthews

Digitized by Google

No.	High or Low.	Location	Make.
245.	H.	Main street, east side, opposite Fort.	Chapman
246.	H.	Main street, east side, opposite Hampden,	Matthews
247.	H.	N. E. corner Main and Lyman streets.	Matthews
248.	H.	Lyman street, north side, opposite Nos. 27–31.	Perkins
249.	L	Lyman street, north side, opposite Nos. 39–43.	Chapman
250.	H.	Lyman street, south side, front of No. 53.	Perkins
251	L.	Lyman street, north side, opposite Dwight,	Chapman
252.	H.	S. E. corner Lyman and Dwight streets.	Perkins
253	L	S. E. corner Chestnut and Lyman streets.	Perkins
254.	H.	N. E. corner Chestnut and Lyman streets.	Chapman
255	H.	N. E. corner Chestnut and Charles streets.	Chapman
256.	H.	S. W. corner Chestnut and Liberty streets.	Chapman
257.	H.	S. E. corner Chestnut and Liberty streets.	Chapman
258.	L.	Chestnut street, west side, opposite Liberty.	Perkins
259.	L.	Liberty street, north side, opposite Day & Jobson's planing mill.	Perkins
260.	H.	Liberty street, south side, east end of depot.	Chapman
261	L.	Liberty street, south side, opposite No. 74.	Chapman
262.	L.	Liberty street, south side, east of Cooley's hotel.	Chapman
263.	H.	Liberty street, south side, east of Cooley's hotel.	Chapman
264.	H.	S. E. corner Main and Liberty streets.	Matthews
265.	H.	Main street, east side, just south of arch.	Chapman
266.	H.	Main street, east side, just north of arch,	Chapman
267	H.	S. E. corner Main and Ferry streets.	Chapman
268.	L.	Ferry street, north side, front of No. 46.	Chapman
269.	L	Ferry street, north side, opposite No. 97.	Chapman
270.	H.	Chestnut street, east side, opposite Sharon.	Chapman
271	L.	N. W. corner Chestnut and Sharon streets.	Perkins
272.	L.	Sharon street, north side, front of No. 92.	Perkins
273	L.	Sharon street, north side, front of No. 52.	Perkins
274.	H.	S. E. corner Main and Sharon streets.	Chapman
275.	H.	N. W. corner Quincy and Colton streets.	Chapman
276.	H.	S. E. corner Main and Congress streets.	Chapman
277.	L.	Congress street, north side, opposite No. 33.	Chapman
278.	L.	Congress street, north side, opposite No. 97.	Chapman
279.	H.	Chestnut street, east side, opposite Congress.	Chapman
280.	H.	S W. corner Chestnut and Franklin streets.	Chapman
281.	H.	Franklin street, south side, front of Nos. 111–113.	Chapman
282	H.	Franklin street, south side, at stone yard.	Chapman
283.	H	Franklin street, south side, opposite No. 46.	Chapman
284.	L.	N. E corner Main and Franklin streets.	Chapman
285.	H.	N. E. corner Main and Greenwood streets.	Chapman
286.	L.	Greenwood street, north side, front of No. 42.	Chapman
287.	L.	Greenwood street, north side, opposite No. 83.	Chapman
288.	L.	Greenwood street, north side, front of No. 118.	Chapman

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No.	High or Low.	Location.	Make.
289.	L.	N. W. corner Chestnut and Tenth streets.	Chapman
290.	L	Tenth street, north side, opposite Nos. 105–107.	Chapman
291.	L.	Tenth street, north side, front of Nos. 54–56.	Chapman
292.	H.	N. E. corner Main and Tenth streets.	Chapman
293.	L.	N. E. corner Main and Essex streets.	Perkins
294.	H.	N. E. corner Main and Essex streets.	Chapman
295.	L.	Essex street, north side, opposite No. 51.	Perkins
296.	L.	Essex street, north side, front of No. 98.	Perkins
297.	L	Linden, near S. E. corner Chestnut street.	Chapman
298.	L.	N. W. corner Chestnut and Patton streets.	Chapman
299.	L.	S. E. corner Chestnut and Everett streets.	Chapman
300.	L.	Patton street, north side, front of No. 54.	Chapman
301.	L.	N. E. corner Main and Patton streets.	Chapman
302.	H.	S. E. corner Main and Patton streets	Chapman
303.	H.	S. E. corner Main and Bond streets.	Chapman
304.	L.	N. E. corner Main and Bond streets.	Chapman
305.	L.	Bond street, north side, front of Nos. 110–112.	Chapman
306.	L.	N. E. corner Chestnut and Butler streets.	Chapman
307.	L.	N. E. corner Chestnut and Carew streets.	Chapman
308.	L.	N. E. corner Carew and North streets.	Chapman
309.	L.	Morris street, north side, opposite No 40.	Chapman
310.	H.	S. E. corner Main and Carew streets.	Chapman
311.	L.	N. E. corner North and Grosvenor streets.	Chapman
312.	L.	N. W. corner Ghestnut and Grosvenor streets.	Chapman
313.	L.	S. W. corner Chestnut and Ringgold streets.	Chapman
314.	L.	N. E. corner North and Ringgold streets.	Chapman
315.	L.	S. W. corner North and Morgan streets	Chapman
316.	L.	Morgan street, south side, midway.	Chapman
317.	L.	N. W. corner North and Osgood streets.	Chapman
318.	L.	S. W. corner North and Bancroft streets.	Perkins
319.	L.	Bancroft street, south side, midway.	Chapman
320.	L.	S. W. corner Chestnut and Bancroft streets.	Chapman
321.	L.	N. W. corner Chestnut and Hebron streets.	Chapman
322.	L.	Hebron street, north side, midway.	Chapman
323.	L.	N. W. corner Chestnut and Allendale streets.	Chapman
324.	L.	N. W. corner Chestnut street and Jefferson avenue.	Chapman
325.	L	S. W. corner North street and Jefferson avenue.	Chapman
326.	L.	Calhoun street, north side, at North.	Chapman
327.	L.	S. W. corner Chestnut and Waverly streets.	Chapman
328.	L.	Chestnut street, west side, near Springfield.	Chapman
329.	L.	Montmorenci street, north side, midway.	Chapman
330.	L.	N. W. corner Montmorenci and Massasoit streets.	Chapman
331.	L.	S. W. corner Prospect and Massasoit streets.	Chapman
332.	L.	N. W. corner Carew and Massasoit streets.	Chapman
333.	L.	Arbor street, east side, front of No. 40.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
334.	L.	Everett street, south side, midway.	Ayers
335.	L.	S. W. corner Cass and Everett streets.	Chapman
336.	L.	S. W. corner Cass and Linden streets.	Chapman
337.	L.	Linden street, south side, opposite No. 46.	Perkins
338.	L.	Charles street, west side, midway between Franklin and Liberty streets.	Ayers
339.	H.	S. E. corner Liberty and Charles streets.	Chapman
340.	H.	Charles street, west side, near B. & A. freight house.	Chapman
341.	H.	Liberty street, north side, front of No. 200.	Chapman
342.	L	Liberty street, south side, front of R. F. Hawkins's shops.	Perkins
343.	L.	N. W. corner Liberty and Cass streets.	*Matthews
344.	H.	Liberty street, south side, opposite Webster.	Chapman
345.	H.	S. E. corner Liberty and Armory streets.	Chapman
346.	H.	N. E. corner Carew and Armory streets.	Chapman
347.	L.	Lyman street, south side, front of Gilbert & Barker's shop.	Chapman
348.	H.	Lyman street, north side, at Spring.	Chapman
349.	H.	N. E. corner Chestnut and Taylor streets.	Chapman
350.	H.	N. W. corner Chestnut and Taylor streets.	Chapman
351.	L.	S. W. corner Chestnut and Worthington streets.	Chapman
352.	H.	N. E. corner Chestnut and Worthington streets.	Chapman
353.	H.	Cass street, S. E. corner Franklin.	Chapman
354.	H.	N. E. corner Worthington and Alert streets.	Chapman
355.	L.	S. W corner Worthington and Spring streets.	Ayers
356.	H.	N. E. corner Worthington and Spring streets.	Chapman
357.	H.	N. E. corner Spring and Summer streets.	Chapman
358.	H.	Worthington street, north side, opposite schoolhouse.	Chapman
359.	H.	N. E. corner Worthington and Autumn streets.	Chapman
360.	L.	Summer street, south side, front of No. 121.	Chapman
361.	H.	Worthington street, north side, opposite No. 377.	Chapman
362.	L.	S. W. corner Worthington street and Sackett avenue.	Perkins
363.	H.	Worthington street, north side, opposite Sackett avenue.	Chapman
364.	H.	N. E. corner Worthington street and Kibbe avenue.	Chapman
365.	H.	Worthington street, north side, opposite No. 485.	Chapman
366.	H.	N. E. corner Worthington and Federal streets.	Perkins
367.	H.	N. W. corner Pearl and Federal streets.	Chapman
368.	H.	Federal street, west side, at Armory gate.	Matthews

* Old Style.

Digitized by Google

No.	High or Low.	Location.	Make.
369.	H.	Pearl street, north side, front of No 242.	Brown
370.	H.	Pearl street, north side, at angle.	Chapman
371.	H.	Pearl street, north side, at Byers.	Chapman
372.	H.	S. E. corner Pearl and Spring streets.	Chapman
373.	L.	Allendale street, south side, midway.	Chapman
374.	L.	Pearl street, north side, opposite Salem.	Chapman
375.	L.	S. E. corner Chestnut and Pearl streets.	Chapman
376.	L.	Chestnut street, east side, near Bridge.	Chapman
377.	L.	Chestnut street, west side, opposite No. 55.	Chapman
378.	H.	Chestnut street, west side, opposite Christ Church.	Perkins
379.	L.	Edwards street, north side, opposite No. 37.	Perkins
380.	L.	Elliott street, west side, front of Convent.	Chapman
381.	H.	N. W. corner State and Elliott streets.	Matthews
382.	L.	S. E. corner Salem and Elliott streets.	Ayers
383.	H.	Salem street, north side, opposite Elliott.	Chapman
384.	H.	N. W. corner State and Spring streets.	Matthews
385.	H.	N. E. corner Spring and Frost streets.	Chapman
386.	L.	S. W. corner Spring and Salem streets.	Ayers
387.	H.	Spring street, east side, opposite Salem.	Perkins
388.	H.	State street, north side, near City Library.	Perkins
389.	H.	State street, south side, front of No. 345.	Perkins
390.	H.	State street, north side, near Olivet Church.	Matthews
391.	H.	S. E. corner State and Walnut streets.	Matthews
392.	H.	N. E. corner Federal and Lincoln streets.	Perkins
393.	H.	N. E. corner Armory and Grant streets.	Chapman
394.	H.	S. E. corner Armory and Magazine streets.	Chapman
395.	H.	Armory street, east side, at paint shops.	Chapman
396.	H.	N. W. corner Magazine and Grant streets.	Chapman
397.	H.	State street, north side, midway Benton park.	Perkins
398.	H.	N. E. corner State street and St. James avenue.	Perkins
399.	H.	N. E. corner St James avenue and Bowdoin street.	Chapman
400.	H.	S. E. corner Worthington and Bowdoin streets.	Perkins
401.	H.	S. E. corner Bowdoin and Ingersoll Grove streets.	Chapman
402.	H.	S. W. corner Florida and Worthington streets.	Matthews
403.	H.	S. W. corner Florida street and St. James avenue.	Matthews
404.	H.	S. E. corner Bay and Pleasant streets.	Perkins
405.	H.	N. E. corner State and Pleasant streets.	Perkins
406.	H.	S. E. corner Thompson and Bay streets.	Perkins
407.	H.	S. E. corner Thompson street and St. James avenue.	Chapman
408.	H.	Thompson street, east side, midway between St. James avenue and Worthington street.	Chapman
409.	H.	S. E. corner Worthington and Thompson streets.	Chapman
410.	H.	Ingersoll Grove, east side, at angle.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
411.	H.	S. E. corner Westminster street and St. James avenue.	Chapman
412.	H.	Westminster street, east side, midway between St. James avenue and Bay street.	Chapman
413.	H.	S. E. corner Bay and Westminster streets.	Ayers
414.	H.	N. E. corner State and Westminster streets.	Perkins
415.	H.	Buckingham street, east side, front of No. 69.	Chapman
416.	H.	S. E. corner Buckingham and Bay streets.	Chapman
417.	H.	N. E. corner Buckingham street and Buckingham place.	Chapman
418.	H.	N. W. corner Buckingham and Clarendon streets.	Chapman
419.	H.	S. E. corner Clarendon street and St. James avenue.	Chapman
420.	H.	Clarendon street, east side, between Bay street and St. James avenue.	Chapman
421.	H.	S. E. corner Sherman and Bay streets.	Chapman
422.	H.	S. E. corner Sherman and McKnight streets.	Chapman
423.	H.	N. E. corner Sherman and State streets.	Perkins
424.	H.	State street, south side, at Winchester park.	Chapman
425.	H.	Catharine street, east side, front of No. 37.	Chapman
426.	H.	Catharine street, east side, front of No. 71.	Chapman
427.	H.	N. E. corner Catharine and McKnight streets.	Chapman
428.	H.	S. E. corner Catharine and Bay streets.	Chapman
429.	H.	N. E. corner Bowles and McKnight streets.	Chapman
430.	H.	Bowles street, east side, midway between Bay and McKnight streets.	Chapman.
431.	H.	S. E. corner Bowles and Bay streets.	Chapman
432.	H.	Marion street, east side, midway.	Chapman
433.	H.	N. W. corner McKnight street and Girard avenue.	Chapman
434.	H.	Bay street, south side, front of No. 341.	Chapman
435.	H.	S. E. corner Bay street and Girard avenue.	Chapman
436.	H.	Cambridge street, east side, front of No. 45.	Chapman
437.	H.	S. E. corner Bay street and Oak Grove avenue.	Chapman
438.	H.	N. E. corner Dartmouth and Yale streets.	Chapman
439.	H.	Dartmouth street, east side, midway.	Chapman
440.	H.	S. E. corner Dartmouth street and St. James avenue.	Chapman
441.	H.	Dartmouth terrace, east side, front of No. 45.	Chapman
442.	H.	S. E. corner Harvard and Cornell streets.	Chapman
443.	H.	S. W. corner Harvard street and St. James avenue.	Chapman
444.	H.	Harvard street, west side, midway between St. James avenue and Yale street.	Chapman
445.	H.	N. E. corner Harvard and Yale streets.	Chapman
446.	H.	N. W. corner Princeton and Yale streets.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
447.	H.	Princeton street, west side, between Vassar and Amherst streets.	Chapman
448.	H.	S. W. corner St. James avenue and Princeton street.	Chapman
449.	H.	S. E. corner Cornell and Princeton streets.	Chapman
450.	H.	S. E. corner Cornell and Wellesley streets.	Chapman
451.	H.	St. James avenue, north side, opposite Dorchester street.	Chapman
452.	H.	N. W. corner Monmouth and Yale streets.	Chapman
453.	H.	N. W. corner Lafayette and Amherst streets.	Chapman
454.	H.	N. E. corner State and Andrew streets.	Perkins
455.	H.	Andrew street, east side, midway.	Chapman
456.	H.	State street, north side, opposite No. 1029.	Chapman
457.	H.	State street, north side, front of No. 1090.	Chapman
458.	H.	State street, north side, west of Carlisle brook.	Chapman
459.	H.	S. E. corner State and Benton streets.	Chapman
460.	H.	Boston road, north side, front of Alden Warner's.	Chapman
461.	H.	N. E. corner College street and Wilbraham road.	Chapman
462.	H.	Wilbraham avenue, east side, midway.	Chapman
463.	H.	S. E. corner Waltham avenue and Wilbraham road.	Chapman
464.	H.	N. W corner Hancock and Quincy streets.	Chapman
465.	H.	S. W. corner Colton street and Wilbraham road.	Chapman
466.	H.	S. W. corner, Wilbraham road and Eastern avenue.	Chapman
467.	H.	S. E. corner State and Winchester streets.	Chapman
468.	H.	S. E. corner State and Hancock streets	Perkins
469.	H.	N. E. corner Monroe and Hancock streets.	Chapman
470.	H.	Monroe street, north side, front of No. 72.	Perkins
471.	H.	N. W. corner Monroe street and Eastern avenue.	Chapman
472.	H.	N. W. corner Monroe and Colton streets.	Chapman
473.	H.	S. W. corner Colton and Union streets.	Chapman
474.	H	S. W. corner Union street and Eastern avenue.	Chapman
475.	H.	Union street, south side, front of No. 660.	Chapman
476.	H.	Union street, south side, front of No. 709.	Chapman
477.	H.	S. E. corner Union and Hancock streets.	Matthews
478.	H.	Quincy street, north side, front of No. 181.	Chapman
479.	H.	Quincy street, north side, front of No. 230.	Chapman
480.	H.	N. W. corner Quincy street and Eastern avenue.	Chapman
481.	H.	N. W. corner Tyler and Colton streets.	Chapman
482.	H.	S. W. corner Tyler street and Eastern avenue.	Chapman
483.	H.	Tyler street, north side, front of No. 220.	Chapman
484.	H.	Tyler street, north side, opposite No. 183.	Chapman
485.	H.	N. W. corner Hancock street and Pendleton avenue.	Perkins
486.	H.	Pendleton avenue, north side, opposite No. 163.	Chapman
487.	H.	Pendleton avenue, north side, opposite No. 209.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
488.	H.	N. W. corner Pendleton and Eastern avenues.	Chapman
489.	H.	Beacon street, south side, at Colton.	Chapman
490.	H.	N. W. corner Eastern avenue and King street.	Chapman
491.	H.	King street, north side, front of No. 184.	Chapman
492.	H.	King street, north side, opposite Nelson avenue.	Chapman
493.	H.	N. E. corner King and Hancock streets.	Matthews
494.	H.	N. W. corner Lebanon and Hancock streets.	Matthews
495.	H.	N. W. corner Lebanon street and Nelson avenue.	Chapman
496.	H.	N. W. corner Lebanon street and Merrick avenue.	Chapman
497.	H.	Eastern avenue, east side, opposite Lebanon street.	Chapman
498.	H.	N. W. corner Granville and Logan streets.	Chapman
499.	H.	N. W. corner Greene street and Eastern avenue.	Chapman
500.	H.	Greene street, north side, front of No. 88.	Chapman
501.	H.	N. W. corner Greene street and Nelson avenue.	Chapman
502.	H.	N. E. corner Greene and Hancock streets.	Matthews
503.	H	Alden street, north side, front of No. 24.	Chapman
504.	H.	Alden street, north side, front of No. 86.	Chapman
505.	H.	N. W. corner Alden street and Eastern avenue.	Chapman
506.	H.	N. E. corner Manhattan and Walnut streets.	Chapman
507.	H.	S. W. corner Hancock and Florence streets.	Matthews
508.	H.	N. W. corner Hancock and Hawthorn streets.	Chapman
509.	H.	N. W. corner Hancock street and Hancock avenue.	Chapman
510.	H.	N. E. corner Hickory and Walnut streets.	Matthews
511.	H.	Walnut street, east side, opposite No. 396.	Matthews
512.	H.	Hickory street, north side, opposite Smith & Adams's slaughterhouse.	Chapman
513.	H.	S. W corner Mill and Allen streets.	Chapman
514.	H.	S. W. corner Highland and Allen streets.	Chapman
515.	H.	Allen street, east side, at White street.	Chapman
516.	H.	Allen street, east side, near chapel.	Chapman
517.	H.	Allen street, east side, opposite No. 228.	Chapman
518.	H.	Allen street, east side, near railroad.	Chapman
519.	H.	White street, west side, opposite chapel.	Chapman
520.	H.	White street, west side, front of No. 74.	Chapman
521.	H.	Terrence street, east side, midway.	Matthews
522.	H.	N. W. corner Union and Stebbins streets.	Perkins
523.	H.	N. E. corner Union and Orleans streets.	Perkins
524.	H.	S. E. corner State and Orleans streets.	Matthews
525.	H.	Lillian street, north side, opposite No. 17.	Chapman
526.	H.	S. W. corner Oak street and Charter avenue.	Chapman
527.	H.	N. E. corner Walnut street and Charter avenue.	Perkins
528.	H.	S. W. corner Walnut and Union streets.	Perkins
529.	H.	N. E. corner Quincy and Oak streets.	Perkins

Digitized by Google

No.	High or Low.	Location.	Make.
530.	H.	N. W. corner Quincy and Orleans streets.	Chapman
531.	H.	N. E. corner Quincy and Stebbins streets.	Chapman
532.	H.	Tyler street, north side, front of Blake Mfg. Co's shop.	Perkins
533.	H.	N. E. corner Tyler and Orleans streets.	Perkins
534.	H.	S. E. corner Pendleton avenue and Walnut street.	Perkins
535.	H.	N. E. corner Pendleton avenue and Orleans street.	Chapman
536.	H.	King street, north side, midway between Hancock and Walnut streets.	Chapman
537.	H.	N. W. corner Walnut and James streets.	Matthews
538.	H.	James street, west side, midway.	Chapman
539.	H.	Queen street, north side, opposite No. 43.	Chapman
540.	H.	N. W. corner Cedar and Walnut streets.	Perkins
541.	H.	N. W. corner Ashley and Walnut streets.	Chapman
542.	H.	Ashley street, north side, opposite No 49.	Chapman
543.	H.	Ashley street, north side, front of No. 92.	Chapman
544.	H.	N. E. corner Pine and Cedar streets.	Matthews
545.	H.	N. E. corner Pine and Central streets.	Perkins
546.	H.	S. W. corner Florence and Spruce streets.	Matthews
547.	H.	Spruce street, east side, front of No. 34.	Perkins
548.	H.	Hawthorn street, north side, midway.	Chapman
549.	H.	S. E. corner Spruce and Central streets.	Matthews
550.	H.	S. E. corner Hancock and Central streets.	Matthews
551.	H.	N. E. corner Mill and Central streets.	Matthews
552.	H.	N. W. corner Cherry and Central streets.	Chapman
553.	H.	Cherry street, north side, opposite No. 51.	Chapman
554.	H.	Cherry street, north side, just west of No. 92.	Chapman
555.	H.	Pine street, north side, opposite No. 239.	Perkins
556.	H.	N. W. corner Maple and Pine streets.	Perkins
557.	H.	Central street, west side, front of No. 319.	Matthews
558.	H.	S. E. corner Central and Cedar streets.	Matthews
559.	H.	Central street, north side, east of Maple street.	Matthews
560.	H.	Avon place, north side, midway.	Chapman
561.	H.	N. E. corner Maple street and Avon place.	Chapman
562.	H.	S. E. corner Maple and Mulberry streets.	Chapman
563.	H.	Liberty street, south side, opposite Cass.	Chapman
564.	H.	N. E. corner School and Mulberry streets.	Perkins
565.	H.	Union street, north side, opposite Mulberry.	Perkins
566.	H.	N. E. corner Union and School streets.	Perkins
567.	H.	N. E. corner Union and Maple streets.	Chapman
568.	H.	Maple street, west side, opposite High street.	Chapman
569.	L.	S. E. corner Maple and High streets.	Ayers
570.	H.	N. E. corner High and School streets.	Perkins
571.	H.	Myrtle street, east side, midway.	Perkins
572.	H.	S. W. corner High street and Ingraham avenue.	Perkins

Digitized by Google

No.	High or Low.	Location.	Make
573.	H.	S. W. corner School and Temple streets.	Chapman
574.	H.	Temple street, south side, front of No. 46.	Chapman
575.	H.	S. E. corner Maple and Temple streets.	Chapman
576.	H.	S. W. corner Maple and Stockbridge streets.	Perkins

☞ (*See "Indian Orchard hydrants," at end of list, for missing numbers.*)

598.	H.	Lyman street, north side, midway between Spring and Chestnut streets.	Chapman
599.	H.	Maple street, east side, front of Mrs. S. J. Gordon's.	Matthews
600.	H.	Walnut street, east side, at Oak street.	Perkins
601.	H.	N. W. corner Hancock and Tyler streets.	Matthews
602.	L.	Clinton street, south side, midway.	Chapman
603.	L.	Vine street, south side, midway.	Chapman
604.	L.	Holyoke street, north side, midway.	Chapman
605.	L.	Auburn street, north side, midway.	Chapman
606.	L.	Demond avenue, north side, midway.	Chapman
607.	H.	N. E. corner Dorchester and Truxton streets.	Chapman
608.	H.	King street, N. W. corner Logan.	Chapman
609.	H.	S. E. corner Sumner and Firglade avenues.	Chapman
610.	H.	S. E. corner Sumner avenue and Hawthorn place.	Chapman
611.	H.	N. W. corner Belmont avenue and Oakland street.	Chapman
612.	H.	S. E. corner Belmont avenue and Litchfield street.	Chapman
613.	H.	Litchfield street, at end,	Chapman
614.	H.	N. E. corner Forest and Garfield streets.	Chapman
615.	L.	N. E. corner Fulton and Emery streets.	Chapman
616.	L.	N. E. corner Fulton and Clinton streets.	Chapman
617.	L.	N. E. corner Fulton and Vine streets.	Chapman
618.	L.	N. E. corner Fulton and Holyoke streets.	Chapman
619.	L.	N. E. corner Fulton and Auburn streets.	Chapman
620.	L.	N. E. corner Fulton and Seventh streets.	Chapman
621.	L.	Fulton street, opposite M. Dunn's house, Round Hill.	Chapman
622.	H.	N. E. corner Liberty and Vinton streets.	Chapman
623.	H.	S. W. corner Liberty street and Heywood avenue.	Chapman
624.	H.	Wilbraham avenue, at end.	Chapman
625.	H.	State street, west of N. Y., N. H. & H. R. R.	Chapman
626.	H.	N. W. corner Ladd and Logan streets.	Chapman
627.	H.	N. W. corner Olive and Logan streets.	Chapman
628.	H.	Highland street, N. W. corner Shamrock avenue.	Chapman
629.	H.	Highland street, N. W. corner Orange.	Chapman
630.	H.	Oakland street, N. W. corner Dickinson.	Chapman
631.	H.	Oakland street, west side, opposite No. 46.	Chapman
632.	H.	Hall street, west side, midway.	Chapman
633.	H.	Hall street, N. W. corner Dickinson.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
634.	H.	Churchill street, S. E. corner Garfield.	Chapman
635.	H.	Churchill street, N. E. corner Sumner avenue.	Chapman
636.	H.	Greenleaf street, N. E. corner Sumner avenue.	Chapman
637.	H.	Greenleaf street, S. E. corner Garfield.	Chapman
638.	H.	Park avenue, N. E. corner Sumner.	Chapman
639.	H.	Northampton street, S. E. corner Wilbraham road.	Chapman
640.	H.	Northampton street, east side, midway.	Chapman
641.	H.	Northampton street, at south end.	Chapman
642.	H.	Cambridge street, east side, opposite No. 84.	Chapman
643.	H.	Madison avenue, east side, south end.	Chapman
644.	H.	Pine street, east side, opposite No. 109.	Chapman
645.	H.	Pine street, east side, opposite No. 55.	Chapman
646.	H.	Vinton street, S. E. corner Franklin.	Chapman
647.	L.	Grosvenor street, south side, midway.	Chapman
648.	L.	Ringgold street, south side, midway.	Chapman
649.	L.	Lexington avenue, N. W. corner Massasoit street.	Chapman
650.	L.	Talcott avenue, N. E. corner Plainfield street,	Chapman
651.	L.	Abbe avenue, N. W. corner Plainfield street.	Chapman
652.	H.	Elm street, S. W. corner Court square.	Chapman
653.	H.	Water street, N. E. corner Bliss.	Chapman
654.	H.	Water street, N. E. corner Howard.	Chapman
655.	H.	Howard street, north side, near N. Y., N. H. & H. R. R.	Chapman
656.	H.	Mill street, south side, opposite Maple.	Chapman
657.	H.	Noel avenue, N. W. corner Shamrock.	Chapman
658.	H.	Manhattan street, north side, midway.	Chapman
659.	H.	Manhattan street, N. W. corner Eastern avenue.	Chapman
660.	H.	College avenue, east side, midway.	Chapman
661.	H.	College avenue, S. E. corner Shattuck.	Chapman
662.	H.	Maynard avenue, west side, near State street.	Chapman
663.	L.	Bond street, north side, midway.	Chapman
664.	H.	Douglass street, N. E. corner North Main.	Chapman
665.	L.	Talcott avenue, north side, midway.	Chapman
666.	H.	Birnie avenue, S. E. corner Douglass street.	Chapman
667.	H.	Birnie avenue, just south No. 666.	Chapman
668.	H.	Birnie avenue, 200 feet north Grace street.	Chapman
669.	L.	Orchard street, N. W. corner Plainfield.	Chapman
670.	L.	Orchard street, west end, north side.	Chapman
671.	H.	North street, N. E. corner Carew.	Chapman
672.	H.	Chestnut street, S. E. corner Carew.	Chapman
673.	H.	Massasoit street, N. E. corner Carew.	Chapman
674.	H.	Chestnut street, S. E. corner Linden.	Chapman
675.	H.	Hawthorn place, east side.	Chapman
676.	H.	Firglade avenue, east side.	Chapman

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No.	High or Low.	Location.	
677.	H	—Magnolia terrace, at Sumner avenue.	Chapman
678.	H.	—Magnolia terrace, end of pipe.	Chapman
679.	H.	—Park avenue, N. E. corner Fort Pleasant.	Chapman
680.	H.	—Fairfield street, north side, midway.	Chapman
681.	H.	—Orange street, south side, 380 feet west of White.	Chapman
682.	H.	—White street, west side, 900 feet south of Orange.	Chapman
683.	H.	—Monmouth street, at Berkeley.	Chapman
684.	H.	—Reed street, corner Wilbraham road.	Chapman
685.	H.	—Middlesex street, corner Wilbraham road.	Chapman
686.	H.	—Willard avenue, west side, near Shattuck street	Chapman
687.	L.	—Plainfield street, at No. 407.	Chapman

☞ (*See "Indian Orchard hydrants," at end of list, for missing numbers.*)

693.	H.	—Collins street, near N. W. corner Logan.	Chapman
694.	H.	—Norfolk street, S. E. corner Wilbraham road.	Chapman
695.	H.	—Norfolk street, east side, end of pipe.	Chapman
696.	H.	—Cortland street, west side, midway.	Chapman
697.	H.	—Dawes street, west side, midway.	Chapman
698.	H.	—Hancock street, west side, south of Central, at end.	Chapman
699.	H.	—Ridgewood place, S. W. corner Union street,	Chapman
700.	H.	—Ridgewood place, N. W. corner Mulberry street.	Chapman
701.	H.	—Beech street, east side, midway.	Chapman
702.	L.	—Alexander street, N. E. corner North.	Chapman
703.	H.	—Hyde avenue, S. E. corner Plainfield.	Chapman
704	H.	—Bond place, west side, south end.	Chapman
705	L.	—Acushnet avenue, north side, midway.	Chapman
706.	L.	—Acushnet avenue, north side, end of pipe.	Chapman
707	L.	—Warriner avenue, north side, end of pipe.	Chapman
708.	H.	—Euclid avenue, north side, midway.	Chapman
709.	H.	—Euclid avenue, N. W. corner Dickinson street.	Chapman
710.	H.	—Central street, at Stearns terrace, 6″.	Chapman
711.	H.	—Clifford street, south side, midway.	Chapman
712.	H.	—Montrose street, east side, midway, 6″.	Chapman
713.	L.	—Marble street, N. E. corner Main, 6″.	Chapman
714.	L.	—Marble street, north side, end of pipe, 6″.	Chapman
715.	H.	—Spruceland avenue, S. W. corner Magnolia terrace.	Chapman
716.	H.	—Summer street, S W. corner Federal, 6″.	Chapman
717.	H.	—Summer street, S. E corner Kibbe avenue, 6″.	Chapman

INDIAN ORCHARD.

577.	H.	—S. W. corner Water and Cedar streets.	Chapman
578.	H.	—N. W. corner Main and Cedar streets.	Perkins
579.	H.	—S. W. corner Main and Pine streets.	Perkins

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No.	High or Low.	Location.	Make.
580.	H.	N. E. corner Main and Oak streets.	Chapman
581.	H.	S. E. corner Water and Oak streets.	Chapman
582.	H.	N. W. corner Main and Myrtle streets.	Perkins
583.	H.	Main street, north side, west end of Park.	Perkins
584.	H.	S. W. corner Worcester and Myrtle streets.	Perkins
585.	H.	S. W. corner Chestnut and Worcester streets.	Ayers
586.	H.	S. E. corner Hampden and Myrtle streets.	Perkins
587.	H.	N. E. corner Berkshire and Myrtle streets.	Perkins
588.	H.	N. E. corner Berkshire and Chestnut streets.	Perkins
589.	H.	N. W. corner Hampshire and Myrtle streets.	Chapman
590.	H.	N. E. corner Hampshire and Oak streets.	Chapman
591.	H.	S. W. corner Hampden and Oak streets.	Chapman
592.	H.	S. W. corner Worcester and Oak streets.	Chapman
593.	H.	N. W. corner Worcester and Pine streets.	Chapman
594.	H.	Pine street, at Chapman Valve Works.	Chapman
595.	H.	N. W. corner Hampshire and Pine streets.	Chapman
596.	H.	Oak street, west side, near Essex, south.	Chapman
597.	H.	Oak street, west side, near Essex, south.	Chapman
688.	H.	Main street, 600 feet east of Cedar.	Chapman
689.	H.	Main street, near Wilbraham line.	Chapman
690.	H.	Parker street, S. W. corner Main.	Chapman
691.	H.	Parker street, west side, 1200 feet south of Main.	Chapman
692.	H.	Berkshire street, north side.	Chapman

FLUSH HYDRANTS.

L.—N. E. corner Hampden and Water streets.
L.—N. E. corner Water and Fort streets.

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MAIN AND DISTRIBUTION PIPE

IN USE DECEMBER 1, 1894.

[*Pipe Belonging to Private Parties Marked (P).*]

LOCATION OF PIPE.	Size in Inches.	Length in Feet.				Totals in Feet.
		Cement-Lined or Wrought-Iron.		Cast-Iron.		
		High Service	Low Service	High Service	Low Service	
Abbe ave., west from Plainfield st	6	....	....	....	760	
do. east from Plainfield st	6	....	....	....	17	777
Acushnet ave., east from Main st.	6	....	....	....	803	803
Adams st., Main to Ashmun	8	....	....	....	1,038	1,038
Alden st., Hancock to Logan	6	....	....	1,939	....	1,939
Alert st., north from Worthington	1	....	260	....	....	260
Alexander st.	6	....	....	....	762	762
Allen st., Mill to White	8	....	....	930	....	
do. White to opposite house of Joseph Scott	6	....	....	2,598	....	3,528
Allendale st.	6	....	....	....	684	684
Amherst st.	6	....	....	1,339	....	1,339
Andrew st., north from Boston road	4	....	....	1,405	....	1,405
Arbor st., Carew to Butler	6	....	....	....	457	457
Arch st., North Main to Conn. River R. R.	6	....	....	....	985	985
do. west from North Main	6	....	....	51	....	51
Armory st., Federal to Magazine	4	....	....	792	....	
do. north from Magazine (P)	1¼	116	....	....	....	
do. Summer to Van Horn reservoir	8	....	....	5,621	....	6,529
Ashley st., Cedar to Hancock	6	....	....	1,427	....	1,427
Ashmun st., Central to Adams	8	....	....	....	269	269
Auburn st.	6	....	....	....	887	887
do. west from Main	6	....		90	....	90
Avon place	4	....	....	715	....	715
do. east from Maple	4	....	437	....	....	
do. east from wrought iron	4	....	....	....	416	853
Bancroft st., North Main to North	6	....	....	....	911	
do. North to Chestnut	6	....	....	....	600	
do. at Chestnut	8	....	....	....	4	1,515
do. east from North Main	6	....	....	21	....	21
Banks ave., west from Water st. (P)	1¼	..	193	....	....	193
Bay st., St. James ave. to Thompson st	8	1,275	....	....	....	
do. Thompson to Oak Grove ave.	8	....	....	3,528	....	4,803
Beacon st., Eastern ave. to Colton st.	6	....	....	374	....	
do. east from Colton	2	129	....	....	....	503
Beech st.	6	....	....	560	....	560
Belmont ave., Fort Pleasant ave. to Oakland st.	8	....	....	3,617	....	3,617
Benton st., south from Boston road	4	....	....	1,175	....	
do. south from 4" (P)	1¼	432	....	....	....	1,607
Berkeley st.	6	....	....	493	....	493

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-lined or Wrought-Iron. High Service	Cement-lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Berkshire st., I. O. west from Myrtle (see Ludlow reservoir)	24		....	....	....	
do. east from Myrtle	6	....	....	456	....	456
Birnie ave., Grace to Walter	2	...	283	....	....	
do. south from Walter st	6	....	....	....	168	451
do. north from Grace	8	....	....	206	....	
do. south from Grace	8	....	....	12	.	
do. south from Douglass	6	....	....	176	....	394
Bliss st., Main to Water	6	....	....	....	995	
do. at Water (west)	6	.	....	.	40	
do. west from Water	2	....	361	....	....	1,396
Bond place, south from Bridge st. (P)	1¼	....	144	....	....	144
do.	6	....	....	191	....	191
Bond st., Main to Chestnut	6	....	....	....	1,673	1,673
do. east from Main	6	...	....	18	....	
do. east from 6"	4	....	....	183	....	201
Boston & Albany R. R., line of	8	....	....	....	1,225	1,225
Boston ave., south from Boston road (P)	1¼	172	...	....	....	172
Boston and Indian Orchard roads (see Ludlow reservoir)	24		....	....	....	
Bowdoin st., St. James ave. to Worthington st	4	....	....	1,202	....	
do. north from Worthington	6	....	....	833	....	2,035
Bowles st., Catharine to McKnight	2	700	....	...	....	
do. McKnight to Bay	4	...	....	811	....	1,511
Boylston st	6	....	....	....	934	934
Bradford st., North Main to Fulton	6	....	....	....	1,011	1,011
do. west from North Main	6	....	....	67	....	67
Bridge st., Water to Main	6	....	....	....	772	
do. Main to Chestnut	6	....	....	...	1,149	1,921
do. Main to Water	6	....	....	873	....	
do. east from Main	6	....	....	211	....	1,084
Brightwood ave., west from Plainfield st	6	....	....	..	176	176
Broad st., west from Main	8	....	1,001	....	....	
do. east from Hanover	4	....	....	..	52	1,053
Brown st., Bay to Yale	6	....	....	564	....	564
Buckingham st., north from State	6	670	....	....	....	
do. south from Bay	6	...	....	600	....	
do. Bay to Clarendon	4	....	....	806	....	2,076
Buckingham Place	1½	338	....	....	....	338
Burr st., east from Andrew	4	....	....	695	....	695
Butler st., Chestnut to Arbor	6	....	....	.	975	
do. east from Arbor	6	....	....	....	194	
do. east from 6" (P)	4	....	....	....	33	
do. east from private 4"	4	....	....	....	144	1,346
Byers st	6	1,452	....	....	....	1,452
Calhoun st., North Main to North	6	....	....	....	750	
do. east from North	6	....	....	....	365	1,115
do. east from North Main	6	....	....	16	....	16
Cambridge st., south from Bay	6	....	....	890	....	
do. north from Burr	6	....	....	263	....	1,153
Carew st., near Main to near Chestnut	8	....	1,512	....	....	
do. west from Chestnut	8	....	....	....	26	
do. east from Chestnut	6	....	....	....	33	
do. east from 6"	3	....	....	....	4	
do. near Chestnut to Massasoit	2	....	555	....	....	
do. east from Massasoit	6	....	....	....	310	
do. Main to North	16	....	875	....	...	3,353

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Carew st., east from Main	8	....	....	19	....	
do. Main to Chestnut (see Ludlow reservoir, "Main No. 2")	20	....	....		....	
do. east from Chestnut (see Ludlow reservoir, "Main No. 2")	24	....	....		....	
do. west from Armory (P)	1¼	559	....	....	....	
do. east from Armory	6	....	....	11	....	589
Cass st., Linden to Everett	4	....	....	....	359	359
do. Liberty to Franklin	6	....	....	596	....	596
Catharine st., State to Bay	12	....	....	1,771	....	
do. Bay to Dartmouth	12	....	....	190	....	1,961
Cedar st., Walnut to Pine	16	1,254	....	....	....	
do. west from Pine	2	22	....	....	....	1,479
Cedar st., I. O.	4	374	....	....	....	374
Center st., I. O., east from Oak	2	359	....	....	....	
do. west from Cedar	2	360	....	....	....	
do. west from 2"	1½	52	....	....	....	771
Central st., east from Main	4	....	....	....	482	
do. west from Maple	6	....	959	....	....	1,441
do. Maple to Mill	8	....	....	4,035	....	4,035
Central st. avenue	2	250	....	....	....	250
Chapel st., east from Eastern ave. (P)	1	234	....	....	....	234
Chapin pond, at pumping station	8	....	....	163	....	
do. do.	12	....	....	299	....	462
Charles st., south from Franklin	3	....	287	....	....	
do. north from Liberty	4	....	324	....	....	611
do. south from Liberty	4	....	....	204	....	204
Charter avenue	2	370	....	....	....	370
Cherry st., south from Central	6	....	....	1,130	....	1,130
Chester st., south from Central (P)	2	246	....	....	....	
do. south from 2" (P)	1¼	39	....	....	....	285
Chestnut st., brook to Jefferson ave.	20	....	1,715	....	....	
do. at Jefferson ave. (north)	20	....	....	....	10	
do. Jefferson ave. to Franklin	12	....	....		3,325	
do. Franklin to East Taylor	8	....	....	....	1,540	
do. Taylor to Worthington	6	....	333	....	....	
do. Worthington to Pearl	6	....	....	....	461	
do. South from Pearl	3	....	775	....	....	
do. north from State	4	....	625	....	....	8,784
do. north from Carew	8	....	....	15	....	
do. Carew to Worthington	8	....	....	3,284	....	
do. north from State	6	....	....	360	....	
do. 6" to Edwards (P)	2	635	....	....	....	4,294
Chestnut st., I. O., Hampden to Worcester	4	369	....	....	....	369
Church st., North Main to North	6	....	....	....	898	898
do. east from North Main	6	....	....	19	....	19
Churchill st.	6	....	....	675	....	675
City Hall ave.	4	....	....	131	....	131
Clarendon st., Bay to St. James ave.	6	....	....	1,098	....	
do. north from Worthington (for hydrant)	6	....	....	12	....	
do. north from Worthington	2	233	....	....	....	1,313
Clifford st.	4	....	....	505	....	505
Clifton ave, south from Central st.	4	....	....	504	....	504
Clinton st., Main to Fulton	6	....	....	....	796	796
College ave., State st. to Shattuck	6	....	....	833	....	
do. north from Shattuck	6	....	....	168	....	1,001
College st., State to Wilbraham road	8	....	....	567	....	567

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Collins st., east from Eastern ave.	6	...	....	539	...	539
Colton st., Wilbraham road to Beacon st.	6	....	....	1,680	....	1,680
Congress st., Main to near Chestnut	6	....	....	....	1,533	
do. west from Chestnut	4	....	....	....	60	1,593
Conn. River R. R., under tracks, connecting Arch and Washburn sts	6	....	....	....	226	226
Cook's ave., Bridge st. to North Church ave.	4	....	....	....	126	126
Cornell st	6	....	....	1,829	....	1,829
Cortland st., south from Shattuck	6	....	....	627	....	627
Court st., Main to Water	6	....	....	....	1,060	
do. at Water	8	....	....	....	4	1 064
do. west from Main	8	....	....	294	....	294
Cross st., Willow to Maple	4	....	....	617	....	617
Cycle st., east from Heywood st. (P)	6	....	....	386	....	
do. for hydrants (P)	4	....	....	24	...	410
Cypress ave., at Cypress st	4	....	....	....	9	
do north from Cypress st	3	....	210	....	....	219
Cypress st., Main to Fulton	6	....	....	....	720	720
do. Main to Fulton	8	....	....	676	....	676
Dale st., Union to William	6	....	....	....	400	
do. William to Winthrop	4	....	....	....	249	649
Dartmouth st., Bay to St. James ave.	12	....	....	1,036	....	1,036
Dartmouth terrace, west from St James ave	6	...	....	479	....	479
Dawes st	6	....	..	1,250	...	1,250
Demond ave	6	....	....	....	922	922
do. at Fisk ave	6	...	....	2	....	2
Dexter st., George to Knox (P)	2	719	....	....	...	719
Dorchester st	6	....	....	620	....	620
Douglass st., North Main to Birnie ave.	6	....	....	582	....	582
Dwight st., State to Bridge	6	....	....	...	1,565	
do. Bridge to Worthington	6	....	286	....	...	
do. crossing sewer at Worthington	6	....	....	....	45	
do. south from Lyman	6	....	....	....	49	1,945
do. State to Lyman (less 8" crossing Worthington st.)	0	....	....	2,322	....	
do. crossing sewer at Worthington	8	....	....	28	....	2,350
Dymon st	2	475	....		....	475
Eagle st., at North Main (east and west)	6	....	....	27	....	27
East Court st	4	...	....	584	....	584
Eastern ave., in State st, at 24" main	8	....	....	18	....	
do. from gate at State st. 24" main to Tyler st	12	....	....	1,568	....	
do. Tyler st., to Pendleton ave.	12	350	....	....	....	
do. Pendleton ave. to Manhattan st.	8	....	....	1,873	....	3,809
East Hooker st., east from North Main	6	...	....	....	361	361
do. do.	4	....	....	14	....	14
Edwards st	4	....	....	....	737	737
Elliott st	4	...	918	....	....	918
Elm st., Main to near Water	6	....	..	...	965	
do. east from Water	8	....	....	....	15	
do. west from Water (P)	1¼	....	395	....	....	1,375
do. west from Main	8	....	....	306	....	306
Elmwood st., west from Main	6	...	....	....	810	810

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length of Pipe. Cement Lined or Wrought-Iron. High Service	Cement Lined or Wrought-Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Totals in Feet.
Emery st	6	....	....	....	724	724
do.	8	....	....	716	....	716
Essex st., Main to near Chestnut	6	....	1,625	....	....	
do. west from Chestnut	6	....	....	....	25	1,650
do. east from Main	6	....	....	14	....	14
Essex st., I. O., Myrtle to Pine	8	....	....	1,222	....	1,222
Euclid ave	6	....	....	1,163	....	1,163
Everett st., east from Chestnut	6	....	....	....	46	
do. east from 6"	4	....	1,204	....	....	
do. west from Cass	4	....	....	....	50	
do. east from Cass (in private way)	4	....	....	....	253	1,553
Fairbanks ave., from Worthington st.	3	....	329	....	....	329
Fairfield st., north from Garfield	6	....	....	934	....	934
Federal st., State to Armory	16	....	....	998	....	
do. Armory to Summer	8	....	....	1,500	....	2,498
Ferry st., east from Main	6	....	....	....	30	
do. east from 6"	4	....	459	....	....	
do. west from Chestnut	6	....	....	....	1,083	1,572
Firglade ave., south from Sumner	6	....	....	833	....	833
Fisk ave., south from Wason	8	....	1,493	....	....	1,493
do. south from Wason	12	....	....	736	....	
do. south from 12" Grace st. line	8	....	....	205	....	941
Florence st., Pine to Hancock	6	1,615	....	....	....	
do. east from Hancock	2	263	....	....	....	
do. west from Walnut	1	88	....	....	....	1,966
Florida st., north from Bay	6	1,520	....	....	....	
do. south from Worthington	6	....	....	14	....	
do. north from Worthington	6	....	....	850	....	2,384
Forest st., Belmont ave. to Park ave.	6	....	....	843	....	843
Fort st., Main to Water	6	....	....	....	715	715
do. west from Main (P)	4	....	....	76	....	76
Fort Pleasant ave., south from Mill st.	12	....	....	167	....	
do. south from Belmont ave.	8	....	....	287	....	
do. south from 8"	1¼	94	....	....	....	
do. north from Sumner ave	6	....	....	1,176	....	1,724
Franklin st., Main to Chestnut	6	....	....	....	1,610	
do. east from Chestnut	6	....	....	....	21	
do. east from Charles	1¼	....	131	....	....	
do. east from Cass (P)	1¼	....	128	....	....	1,890
do. Main to Chestnut	8	....	....	1,583	....	
do. west from Liberty	2	1,173	....	....	....	2,756
Fremont st., Main to Water	6	....	....	....	831	831
Fulton st., Cypress to Plainfield	6	....	....	....	2,530	
do. Plainfield to brow of Round Hill	6	....	....	....	456	2,986
Gardner st., Main to Water	12	....	500	....	....	
do. west from Water	12	....	84	....	....	
do. west from 12"	8	....	399	....	....	
do. west from 8"	6	....	150	....	....	
do. east from Hanover	4	....	....	....	42	1,175
do. Gardner ave. to Hanover st.	8	....	....	189	....	189
Gardner ave	8	....	....	329	....	329
Garfield st	6	....	....	1,544	....	1,544
George st., south from Pine (P)	2	354	....	....	....	354
Girard ave., Bay to McKnight	6	....	....	975	....	975
Grace st., North Main to Birnie ave.	4	....	509	....	....	509
do. North Main to Birnie ave	12	....	....	690	....	
do. Birnie ave. crossing to Fisk ave.	12	....	....	390	....	1,080
Grant st	4	....	....	600	....	600
Granville st., Eastern ave. to Logan st.	6	....	....	497	....	497

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MAIN AND DISTRIBUTION PIPE—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet
Gray's ave., north from Cypress	6	....	....	....	358	
do. north from 6"	4	....	221	....	....	
do. south from Emery st	6	....	....	....	14	593
Greene st., Hancock to East rn ave	6	....	....	1,363	....	1,363
Greene st. ave., north from Greene st	2	200	....	....	....	200
Greenleaf st	6	....	....	666	....	666
Greenwood st., east from Main	6	....	....	....	1,271	
do. west from Chestnut	4	....	....	....	337	1,608
Grosvenor st., north to Chestnut	6	....	....	....	773	773
Grove st., at North Main (east and west)	6	....	....	32	....	32
Hall st., Belmont ave to Dickinson st	6	....	....	997	....	997
Hampden st., west from Main	6	....	....	....	22	
do. Main to Water	12	....	700	....	....	722
do. Main to Water	8	....	....	660	....	660
Hampden st., I. O., Myrtle to Chestnut	4	750	....	....	....	
do. Myrtle to Oak	4	....	....	662	....	1,412
Hampshire st., I. O	4	....	....	1,829	....	1,829
Hancock st., State to Lebanon	16	2,400	....	....	....	
do. Lebanon to Walnut	12	....	....	930	....	
do. Florence to Hancock ave	6	....	....	576	....	
do. Hancock ave to Central st	6	....	....	550	....	
do. at Central (south)	8	....	....	3	....	
do. south from Central	4	....	....	225	....	
do. south from 4"	6	....	....	412	....	5,096
Hanover st., Gardner to Broad	4	....	....	....	513	513
do. Gardner to York	8	....	....	789	....	789
Harrison ave., Main st. to Dwight	6	....	....	....	649	649
do. west from Dwight	6	....	....	173	....	173
Harvard st., Yale to St. James ave	6	....	....	947	....	
do. St. James ave. to Cornell st	6	....	....	716	....	1,663
Hawley st	6	515	....	....	....	515
Hawthorn place, south from Sumner av	6	....	....	616	....	616
Hawthorn st., Spruce to Hancock	4	....	....	568	....	568
Hebron st., North to Chestnut	6	....	....	....	746	746
Heywood ave. south from Liberty st. (P)	6	....	....	357	....	357
Hickory st., east from Central	2	488	....	....	....	
do. east from Walnut st. main	6	123	....	....	....	
do. from east line of Walnut to Alden (including crossing private land to a point 154 feet west of cor. Alden and Hickory sts)	4	....	....	2,613	....	
do. Alden to Woodbine ave	4	....	....	550	....	3,776
High st., Maple to School	3	....	781	....	....	781
do. School to Walnut	6	1,854	....	....	....	1,854
Highland st., Allen to Orange	6	....	....	1,587	....	1,587
Hillman st., east from Main	8	....	....	116	....	
do. west from Dwight	4	....	....	455	....	681
Holyoke st	6	....	....	....	874	874
do. west from Main	6	....	....	80	....	80
Hooker st., west from North Main	6	....	....	14	....	14
Howard st., Main to Water	6	....	....	....	994	
do. west from Water	2	....	420	....	....	
do. west from Water	6	....	362	....	....	1,776
do. west from Water	6	....	....	42	....	
do. near Water (west) to railroad (P)	4	....	....	304	....	346
Howard st., Ludlow, east from North st (P)	1½	441		....	....	441

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement Lined or Wrought-Iron. High Service	Cement Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Hubbard ave., Main to Dale	6	....	....	....	621	621
Hyde ave., east from Plainfield st.	6	....	....	....	17	17
do. at Fisk ave	4	....	....	7	....	
do. west from 4"	6	....	....	930	....	937
Hydrants, sundry streets	4	....	974	....	1,466	
do. sundry streets	6	....	....	....	38	2,478
do. sundry streets	4	....	....	3,455	....	
do. sundry streets	6	....	....	1,498	....	
do. sundry streets	8	....	....	169	....	5,122
Ingersoll grove, Worthington st. to Bowdoin	6	....	....	1,433	....	1,433
James st.	4	....	....	959	....	959
Jefferson ave., at North Main st.	8	....	....	....	10	
do. North Main to North	12	....	....	....	876	
do. north to Chestnut	16	....	482	....	....	
do. east from North Main	1¼	....	225	....	....	1,593
do. at North Main	12	....	....	15	....	15
John st., east from Fulton	6	....	....	....	419	
do. west from Plainfield	4	....	....	....	259	678
Keith st.	6	....	....	1,102	....	1,102
Kibbe ave.	6	....	240	....	....	240
do.	8	....	....	240	....	240
King st., Walnut to Hancock	4	....	....	995	....	
do. Hancock to Eastern ave	6	....	....	1,365	....	
do. east from Eastern ave	6	....	....	455	....	2,815
King st. ave., King st. to Lebanon	2	367	....	....	....	
do. at Lebanon st.	1	7	....	....	....	374
Knox st., Mill to Dexter (P)	2	674	....	....	....	674
Ladd st.	6	....	....	513	....	513
Lafayette st.	6	....	....	620	....	620
Laurel ave., west from Plainfield st.	6	....	....	....	674	674
Lebanon st., Walnut to Hancock	16	630	....	....	....	
do. Hancock to Eastern ave	6	....	....	1,377	....	2,007
Lexington ave.	6	....	....	....	666	
do. (north side) east from Chestnut st. (P)	2	....	323	....	....	
do. (s. side) east from Chestnut st. (P)	2	....	195	....	....	1,184
Liberty st., east from Main	6	....	....	....	1,195	
do. west from Chestnut	4	....	....	....	276	
do. east from Chestnut	6	....	1,800	....	....	3,271
do. Main to Chestnut	6	....	....	1,424	....	
do. west from Chestnut (P)	2	212	....	....	....	
do. east from Chestnut	6	....	....	2,613	....	
do. west from Armory	2	1,961	....	....	....	
do. east from Armory	6	....	....	24	....	6,234
Lillian st., Oak to Orleans	4	....	....	440	....	440
Lincoln st.	2	723	....	....	....	723
Linden st., east from Chestnut	6	....	....	....	34	
do. east from cast-iron	4	....	1,266	....	....	
do. west from Cass	4	....	....	....	16	1,316
Litchfield st., Belmont ave. to Garfield	6	....	....	421	....	421
Locust st., Main to near Mill	12	....	732	....	....	732
do. north from Mill	12	....	....	25	....	25
Logan st., at Olive (for flush gate)	6	....	....	10	....	10
Lombard reservoir, ——to Armory st.	6	....	2,137	....	....	2,137
Lombard st.	4	....	....	....	658	658
Long Hill st., South st. to schoolhouse	8	....	....	2,500	....	
do. from 8" to opposite E. H. Barney's house	2	1,798	....	....	....	4,298

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Totals in Feet.
Loring st., at Water	8	....	....	....	9	
do. east from Water	6	....	....	....	678	687
do. Main to Water	8	....	....	789	....	789
Lowell st	6	....	....	....	1,372	1,372
Ludlow reservoir, as follows:						
Supply Main No. 1.						
Gatehouse to higher brook	24	....	....	3,736	....	
Higher brook to Federal st. (less 215 feet *cast iron* under tracks of B. & A. R. R. as below)	24	52,460	....	....	....	
Federal to Spring, 1,773 feet (see State st	16	....	....	....	....	
Spring to Main, 2,026 feet (see State st.)	16	....	....	....	....	
Under Athol branch tracks of B. & A. R. R	24	....	....	135	....	
Under main tracks of B. & A. R. R.	24	....	....	80	....	56,411
Supply Main No. 2.						
Gatehouse through dam	30	....	....	120	....	
Dam to intersection of Main No. 1	33	....	....	13,388	....	
Intersection of Main No. 1 to 24" (in Carew st)	30	....	....	39,899	....	
30" (in Carew st.) to Chestnut st	24	....	....	2,380	....	
Chestnut st. (in Carew st.) to Main st.	20	....	....	1,670	....	57,457
At Reservoir.						
Distributing canal to cut-off basin	36	....	....	36	....	
Under cut-off dam	36	....	....	132	....	
At Cherry Valley drain gate	20	....	....	36	....	204
Lyman st., Main to Chestnut	8	....	....	....	1,369	
do. east from Chestnut	8	....	....	....	230	
do. east from 8" cast-iron	6	....	123	....	....	
do. west from Spring	6	....	....	....	425	2,147
do. Main to Dwight	6	....	....	850	....	
do. Dwight to Chestnut	8	....	....	475	....	
do. Chestnut to Spring	6	....	....	768	....	2,093
Madison ave., north from Central st	6	....	....	556	....	556
Magazine st., Grant to Armory	4	....	....	638	....	638
Magnolia terrace, south from Sumner ave	6	....	....	909	....	909
Main st., Carew to Liberty (south)	16	....	2,415	....	....	
do. Liberty (south), to Lyman (north)	16	....	....	....	318	
do. Lyman (north), to Hampden	16	....	242	....	....	
do. Hampden to Central	12	....	....	....	4,340	
do. Central to Locust	12	....	2,018	....	....	
do. Locust to Mill	6	....	830	....	....	10,163
do. Carew to State	16	....	....	8,210	....	
do. State to Central	12	....		2,133	....	
do. Central to Loring	12	....		242	....	
do. Mill to Mill river	12	....		310	....	
do. at Carew (between high and low services)	6	....	....	25	....	
do. at Bridge (between high and low services, and sewer man hole)	6	....	....	24	....	7,934

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Sizes in Inches.	Length in Feet. Cement-Lined. or Wrought-Iron. High Service	Cement-Lined. or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Main st., I. O., west from Myrtle	8	....	....	510	....	
do. Myrtle to beyond Cedar (see Ludlow reservoir)	24		....	....	....	
do. at 24" main, east	8	....	....	24	....	
do. from 24" main to Wilbraham line	6	....	....	3,930	....	4,464
MAIN SUPPLY PIPES—(see "Ludlow reservoir" and "Van Horn reservoir")						
Manhattan st., Walnut to Eastern ave.	6	....	....	1,120	....	1,120
Maple ave., east from Maple st (P)	2	340	....	....	....	340
Maple st., State to opposite No. 143	6	....	1,816	....	....	
do. opposite No. 143 to Central	8	....	249	....	....	2,065
do. Stockbridge to Union	6	....	....	857	....	
do. Union to Central	8	....	....	1,235	....	
do. Central to Pine	6	1,753	....	....	....	
do. opposite No. 310 (connecting 6" and 4")	4	....	....	15	....	
do. opposite No. 310 to near Pine (east)	4	....	....	650	....	
do. near Pine (east), to Mill	4	756	....	....	....	5,266
Marble st	8	....	....	....	1,084	1,084
Margaret st., Main to Water	6	....	....	....	884	
do. west from Water	4	....	....	....	566	1,450
Marion st., Bay to McKnight	6	....	....	889	....	889
Market st., State to Harrison ave	6	....	....	....	1,058	1,058
do. south from Townsley ave	4	....	....	95	....	95
Massasoit st., north from Carew	3	....	400	....	....	
do. north from 3"	6	....	....	....	288	
do. Lexington ave to Montmorenci st	6	....	....	....	330	
do. north from Montmorenci (P)	1¼	....	158	....	....	1,176
do. at Carew (for hydrant)	6	....	....	50	....	50
Mattoon st., Chestnut to Elliott	4	....	625	....	....	625
do. west from Elliott	6	....	....	362	....	362
Maynard ave., State st. to Shattuck	6	....	....	612	....	612
McKnight st., Sherman to Bowles	4	....	....	507	....	
do. Bowles to Girard ave	6	....	....	414	....	921
Mechanic st., west from Water	6	....	....	....	35	
do. west from 6"	2	....	353	....	....	388
Mechanics row	2	....	220	....	....	220
Merrick ave., King st to Lebanon	2	348	....	....	....	
do. at Lebanon st	1	24	....	....	....	372
Merwin st., at North Main	6	....	....	14	....	14
Middlesex st. south from Wilbraham road	6	....	....	48	....	48
Mill st., U. S. Watershops to Central	8	....		400		
do. Pine to Locust	16	1,157	....	....	....	
do. Locust to Main	12	....	....	581	....	2,138
Monmouth st., Truxton to Yale	4	....	....	497	....	
do. Yale to Berkeley	6	....	....	479	....	976
Monroe st., east from Hancock	6		....	824	....	
do. from cast-iron to Hawley	6	154	....	....	....	
do. Hawley to Colton	6	....	....	730	....	1,708
Monson ave., north from Greene st	2	199	....	....	....	199
Montmorenci st	6	....	....	....	678	678
Montrose st., south from Burr	6	....	....	978	....	978
Moore ave., west from Plainfield st	6	....	....	....	663	663
Morgan st., east from North Main	6	....	....	....	178	
do. east from 6"	4	....	....	....	63	
do. from 4" to near North st	6	....	....	....	580	

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Morgan st., west from North	4	....	....	....	75	896
do. east from North Main	6	....	....	21	....	21
Morris st., east from Main	6	....	....	....	784	
do. 6" to Central	8	....	....	....	326	1,110
Mulberry st., Maple to School	3	....	642	....	....	642
do. east from Maple (P)	2	445	....	....	....	
do. west from School (P)	1	220	....	....	....	
do. School to Union	6	1,380	....	....	....	2,045
Myrtle st	4	....	....	548	....	548
Myrtle st., I. O., Main to Berkshire (see Ludlow reservoir)	24		....	....	....	
do. Berkshire to Essex	8	....	....	845	....	845
Nelson ave., King st. to Lebanon	2	358	....	....	....	
do. at Lebanon st (north)	1	17	....	....	....	
do. Lebanon st to Greene	2	411	....	....	....	786
New st., west from Dwight	2	....	180	....	....	180
Noel ave., west from Highland st.	6	....	....	671	....	671
Norfolk st., south from Wilbraham road	6	....	....	1,200	....	1,200
North st., Carew to Jefferson ave	16	....	2,000	....	....	
do. north from Jefferson ave (P)	2	....	208	....	....	
do. south from Calhoun	1¼	....	181	....	....	
do. Calhoun to Waverly	6	....	....	....	696	3,085
do. at Carew (for hydrant)	6	....	....	51	....	51
Northampton st.	6	....	....	1,114	....	1,114
North Church ave	4	....	....	....	400	400
North Main st., at Carew	8	....	....	....	16	
do. Carew to near Bancroft (north), (less cast iron opposite No. 138-140)	8		2,100	....	....	
do. opposite No. 138-140	8	....	....	....	21	
do. near Bancroft (north), to near Hooker (north)	8	....	....	....	1,316	
do. near Hooker (north), to Wason ave (less cast iron at Thomas st. crossing, Burt's brook)	8		2,641	....		
do. at Thomas st. (crossing Burt's brook)	8	....	....	....	52	
do. north from Wason ave	8	....	....	....	28	6,174
do. Carew to Grace	16	....	....	5,415	....	
do. at proposed street of Birnie and Adams	8	....	....	24	....	
do. at proposed street, midway Adams' nursery (east)	6	....	....	20	....	
do. at proposed street, midway Adams' nursery (west)	4		....	14	....	
do. Grace to Chicopee line (P)	1¼	1,740	....	....	....	7,213
Norwood st	6	....	....	....	1,016	1,016
Oak st	6	1,450	....	....	....	1,450
Oak st., I. O., north from Main	4	....	....	362	....	
do. south from Hampshire	4	....	....	792	....	
do. south from Worcester	1¼	150	....	....	....	1,304
Oakland st., at Belmont ave	8		....	21	....	
do. 8" to Orange st	6		....	1,872	....	1,893
Olive st	6		....	515	....	515
Orange st., west from White	6		....	382	....	382
Orchard st	6		....	....	1,005	1,005
Orleans court, west from Orleans st (P)	1¼	182	....	....	....	182
Orleans st., State to Union	4	....	....	755	....	
do. Union to Pendleton ave	6	....	....	858	....	1,613

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Osgood st., east from North Main	4	....	925	....	....	
do. west from North	4	....	....	....	33	
do. at North	8	....	....	....	3	961
do east from North Main	6	....	....	21	....	21
Oxford st., east from Fort Pleasant ave	6	....	....	26	....	26
Palmer ave., east from Locust st (P)	2	....	850		....	850
Park ave., Fort Pleasant to Sumner	6	....	....	2,625	....	
do. south from Sumner	6	....	....	403	....	3,028
Parker st., south from Main st., I. O.	6	....	....	1,175	....	1,175
Park st., east from Willow	3	....	....	....	224	
do. east from 3"	6	....	....	....	202	
do. west from Maple	6	....	344	....	....	770
Patton st., east from Main	4	....	....	....	810	
do. west from Chestnut	6	....	....		881	1,691
do east from Main	6	....	....	16	....	16
Pearl st., Spring to Chestnut	4	....	964	....	....	964
do. Byers to Federal	4	....	....	2,150	....	2,150
Pendleton ave., Walnut st. to Hancock	8	1,290	....		....	
do. Hancock st. to Eastern ave	6	....	....	1,356	....	2,646
Pine st., Walnut to Cedar	6	....	....	1,079	....	
do. Cedar to Mill (less 24")	16	2,600	....	....	....	
do. south from Maple	24	114	....	....	....	4,453
Pine st., I. O., Main to beyond Chapman Valve Mfg. Co	6		....	1,807	....	1,807
Pine st court	2	365	....	....	....	365
Plainfield st., north from Bradford	6	....	....	....	17	
do. near Bradford to John	4	....	....	....	276	
do. John to Fulton	6	....	....	....	1,072	
do. Lowell to Washburn	6	....	....	....	278	
do. Washburn to Orchard	8	....	....	....	341	
do. South from Abbe ave	8	....	....	....	800	
do. Abbe ave. to Wason	8	....	....	....	1,491	4,275
Pleasant st., State to Bay	4	500	....	....	....	500
Plymouth st	6	....	....	....	500	500
Princeton st., Bay to Cornell	6	....	....	1,877	....	1,877
Prospect st., Chestnut to Massasoit	4	....	....	....	577	577
Pynchon st., at Water	8	....	....	....	15	
do. east from 8"	6	....	....	....	16	
do. east from 6"	3	....	....	....	800	
do. from 3" to Main st	6	....	....	....	35	866
do. west from Main	8	....	....	296	....	....
do. west from 8" (P)	4	....	....	31	..	327
Queen st., east from Walnut	4	....	....	420	....	
do. west from Hancock	6	....	....	356	....	776
Quincy st., Oak to Hancock	6	....	....	1,427	..	
do. west from Hancock st. main	8	....	....	11	....	
do. east from Hancock st. main	8	....	....	8	....	
do. Hancock to Eastern ave	6	....	....	1,370	....	
do. east from Eastern ave	6	....	....	317	..	3,133
Railroad row, west from Main st	6	....	....	....	63	
do. Main to Water	3	....	562	....	....	625
Raymond ave., north from Carew st. (P)	2	158	....	....	....	158
Reed st., south from State (P)	2	690	....	....	....	
do. at Wilbraham road	6	....	....	9	....	699
Richelieu place, east from Richelieu st. (P)	2	....	145	....	....	145
Richelieu st., south from Adams	4	....	....	....	414	414
Ridgewood place	6	....	....	587	....	587
Ringgold st., North to Chestnut	6	....	....	....	753	753

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches	Length in Feet. Cement Lined or Wrought Iron. High Service	Cement Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Ripley ave	2	204	..	....	....	204
Rutland ave., north from Wilbraham road	1¼	141	....	....	....	
do., north from 1¼"	3	37	....	....	....	178
Sackett's ave., south from Worthington st. (P)	¾	....	180	....	....	180
Salem st., Spring to Elliott	3	....	392	....	....	392
do	6	..	....	434	....	434
Sanford st., east from Main	6	....	....	....	70	
do. west from Market	4	....	....	....	90	
do. Market to Dwight	6	....	....	....	392	552
do. at Dwight	4	....	....	6	....	
do. west from Dwight	6	....	....	183	....	189
Sargeant st., west from Main	6	....	....	....	90	
do. near Main to near Fulton	6	....	805	....	....	
do. east from Fulton	6	....	....	....	12	907
do. west from Main	6	....	..	194	....	194
School st., High to Union	3	....	376	..	....	376
do. State to High	6	360	....	....	....	
do. High to Mulberry	4	937	....	....	....	1,497
Seventh st., west from Main	4	....	702	....	....	
do. east from Fulton	6	....	....	....	224	926
do. west from Main	6	....	..	88	....	88
Shamrock ave., west from Highland st	2	161	....	....	....	
do. south from Noel ave	6	....	....	229	....	390
Sharon st., Main to Chestnut	6	....	1,585	....	....	1,585
Shattuck st., College ave. to Cortland st	6	....	....	967	....	967
Sheldon st., west from North Main	4	....	341	....	....	341
do. at North Main	6	....	....	12	....	12
Sheridan ave., south from Morgan	2	....	162	....	....	
do. south from 2"	1½	....	54	....	....	216
Sherman st., State to Bay	4	....	....	1,600	....	
do. Bay to Clarendon (P)	1	101	....	....	....	1,701
Smith st., Maple to Dorne	4	....	....	302	....	302
South st., Mill river to Long Hill st	12	....	....	600	....	600
Spring st., State to near Summer	6	....	....	....	....	
do. near Summer to Lyman	6	....	....	....	350	2,425
do. State to Lyman	6	....	....	2,373	....	2,373
Springfield st. to Chestnut (at brook)	20	....	850	....	....	850
Spruce st	4	735	....	....	....	735
Spruceland ave., west from Magnolia terrace	6	....	....	484	....	484
State st., west from Water	6	....	....	....	165	
do. west from 6" cast-iron	1¼	....	31	....	....	
do. Water to Main	6	....	....	....	993	
do. east from Main	6	....	....	....	50	
do. near Main to Maple	8	....	....	....	772	
do. Maple to Spring	6	....	1,132	....	....	3 143
do. west from 4" (west of Water) (P)	2	244	....	....	....	
do. west from Water	4	....	....	330	....	
do. Water to near Main	8	....	..	923		
do. west from Main	12	....	..	12	....	
do. Main to Spring	16	....	....	2,020	....	
do. Spring to Federal	16	1,778	....	....	....	
do. east from Federal (see Ludlow reservoir)	24		....	....	....	
do. Catharine to Eastern ave (south of 24" main—for Catharine st.)	12	....	....	138	....	

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
State st., west from College (south of 24" main—for College st.)	8	....	....	93	....	5,589
Stearns terrace, north from Central st.	2	475	....	....	....	475
Stebbins lane, east from Walnut st. (P)	1¼	74	....	....	....	74
Stebbins spring—through dam	8	....	....	....	36	
do. dam to intersection of pipe from Lombard reservoir	6	....	....	....	1,300	1,336
Stebbins st., State to Union	4	....	....	776	....	776
St. James ave., State st. to Bay	8	200	....	....	....	
do. Bay to Thompson	6	....	....	1,640	....	
do. Thompson to near Dartmouth	6	....	....	1,054	....	
do. south from Dartmouth	8	....	....	12	....	
do. north from Dartmouth	6	....	....	12	....	
do. near Dartm'th to near Lafayette	8	....	....	1,321	....	
do. near Lafayette to Dorchester	6	....	....	174	....	4,413
Stockbridge st., Main to Willow	6	....	....	....	368	368
do. Maple to Willow	6	....	....	470	....	470
Strong st., at Chestnut	6	....	....	....	23	23
Summer st., east from Spring	6	....	....	....	43	
do. near Spring to Kibbe ave.	3	....	1,865	....	....	
do. north to old Athol engine house	4	....	....	....	210	2,118
do. Kibbe ave. to Federal st.	8	....	....	891	....	
do. Federal to Armory	8	....	....	300	....	1,191
Sumner ave., Long Hill st. to Fort Pleasant ave.	6	....	....	668	....	
do. Fort Pleasant ave. to Churchill st.	8	....	....	2,237	....	2,905
Symonds ave., Worthington st. to North Church avenue	4	....	....	....	150	150
Talcott ave., east from Plainfield st.	6	....	....	....	735	
do. cast-iron to Fisk ave.	6	....	42	....	....	777
Taylor ave., west from Willow st.	1	....	200	....	....	200
Taylor st., east from Chestnut	3	....	358	....	....	358
do. Main to Dwight	8	....	....	843	....	
do. west from Chestnut	6	....	....	44	....	887
Temple st., Maple to School	4	....	....	1,137	....	1,137
Tenth st., Main to Chestnut	6	....	....	....	1,625	1,625
do. east from Main	6	....	....	25	....	25
Terrence st.	4	815	....	....	....	815
Thomas st., at North Main	6	....	....	44	....	44
Thompson st., State to St. James ave.	8	1,540	....	....	....	
do. St. James ave to Worthington st.	8	....	....	716	....	2,256
Townsley ave.	6	....	....	174	....	174
Truxton st.	4	....	....	186	....	186
Tyler st., Oak to Hancock	6	1,440	....	....	....	
do. Hancock to Colton	6	....	....	1,689	....	3,129
Union st., railroad to near Water st.	4	....	386	....	....	
do. west from Water	4	....	....	....	43	
do. Water to Main	6	....	....	....	968	
do. Main to Maple	6	....	....	....	1,148	
do. Maple to School	3	....	692	....	....	3,243
do. Main to Willow	6	....	....	356	....	
do. Maple to School	6	....	....	665	....	
do. School to Hancock	8	3,925	....	....	....	
do. Hancock to Colton	6	....	....	1,686	....	6,632
Van Horn reservoir, from gatehouse through dam	12	....	....	....	200	
do. from gatehouse through dam	16	....	....	....	200	
do. dam to Springfield st.	20	....	1,800	....	....	2,200
Vassar st.	6	....	....	542	....	542

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Vernon st., Main to Water	6	....	....	....	910	910
Vine st., Main to Fulton	6	....	....	....	823	823
do. west from Main	6	....	....	89	....	89
Vinton st., Liberty to near Franklin	6	....	....	641	....	641
Walker st	6	....	619	....	....	619
do. Walker to Gardner ave	8	....	....	459	....	
do. Gardner ave to railroad	6	....	....	223	....	673
Walnut st., State to Union	12	700	....	....	....	
do. Union to Cedar	8	2,087	....	....	....	
do. Cedar to Hancock	8	....	....	630	....	
do. Hancock to U. S. Watershops	12	....	....	1,510	....	4,927
Walter st., east from Birnie ave	2	....	251	....	....	251
do. at North Main	6	....	....	41	....	41
Waltham ave., so from Wilbraham road	6	....	....	537	....	537
Warren ave., west from Hancock st	2	76	....	....	....	76
Warriner ave., east from Locust st	6	....	....	....	360	360
Washburn st., west from Plainfield	6	....	....	....	1,453	1,453
Wason ave., west from North Main st	8	....	707	....	....	
do. from 8" to Fisk ave	12	....	....	....	213	
do. Fisk ave. to near Plainfield st	10	....	....	....	972	
do. east from Plainfield st	8	....	....	....	15	1,907
do. east from Fisk ave	12	....	....	15	....	
do. west from Fisk ave	8	....	....	14	....	29
Water st., Railroad row to near Fort st	6	....	615	....	....	
do. Walker to Lombard	6	....	....	....	105	
do. Hampden to Gardner	12	....	4,810	....	....	5,530
do. State to Howard	8	....	....	476	....	
do. Loring to Walker	8	....	....	184	....	660
Waverly st., North Main to near Chestnut	8	....	860	....	....	
do. near Chestnut to 12"	8	....	....	....	33	
do. 8" to Chestnut	12	....	....	....	15	908
do. at North Main (east and west)	6	....	....	31	....	31
Webster ave., north from Pearl st	3	....	238	....	....	
do. south from Pearl st. (P)	1½	....	142	....	....	380
Webster st., north from Liberty (P)	1	211	....	....	....	211
Wellesley st	6	....	....	481	....	481
Westminster st., State to Bay	6	1,100	....	....	....	
do. Bay to St. James ave	6	....	....	920	....	2,020
Whitest., south from Allen	6	....	....	2,587	....	2,587
Whitney ave., west from Water	4	....	....	....	443	443
Wight ave., east from Water	6	....	....	....	277	
do. east from 6" (P)	1¼	....	209	....	....	486
Wilbraham ave., south from Wilbraham road	6	....	....	1,065	....	
do. south from 6" (P)	1¼	62	....	....	....	1,127
Wilbraham road, Eastern ave to Norfolk st	12	....	....	3,927	....	
do. west from Reed st. (P)	1¼	153	....	....	....	4,080
Wilcox st., Main to Water	6	....	....	....	965	
do. at Water (east and west)	8	....	....	....	6	
do. Water to railroad	4	....	....	....	457	1,428
Willard ave., south from Shattuck st	6	....	....	350	....	350
William st., railroad to Water	6	....	523	....	....	
do. Water to Main	6	....	....	....	945	
do. east from Main	6	....	....	....	23	
do. east from 6"	4	....	327	....	....	
do. west from Dale	6	....	....	....	388	2,106
do. east from Main	6	....	....	248	....	248

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement Lined or Wrought-Iron. High Service	Cement Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Willow st., State to Taylor ave	6	....	....	....	630	
do. at Taylor ave	4	....	....	....	3	
do. Taylor ave to Park st	3	....	....	....	153	786
do. State to Hubbard ave	10	....	....	1,220	....	1,220
Winchester st	4	543	....	....	....	543
Windsor st., east from Pine	2	679	....	....	....	679
Winthrop st., east from Main	6	....	....	....	52	
do. west from Dale	4	....	658	....	....	710
Woodbine ave., north from Hickory st.	4	....	....	327	....	
do. north from 4" (P)	1¼	192	....	....	....	519
Woodworth ave., State st. to High	2	457	....	....	....	457
Worcester ave., east from Plainfield st.	6	....	....	....	811	
do. west from Fisk ave	4	....	....	....	52	863
Worcester st., I. O., Myrtle to Oak	6	....	....	689	....	
do. east from Oak	2	283	....	....	....	972
Worthington st., Symonds ave. to Main st	6	....	....	....	151	
do. Main to Chestnut	6	....	....	....	1,231	
do. Chestnut to Kibbe ave	6	....	2,740	....	....	4,122
do. Main to Dwight	8	....	....	795	....	
do. Dwight to near hose house	10	....	....	559	....	
do. near hose house to Federal st	8	....	....	3,402	....	
do. west from Bowdoin (P)	2	204	....	....	....	
do. west from 2" (P)	1¼	82	....	....	....	
do. Bowdoin to St. James ave	12	....	....	1,654	....	6,696
Yale st., Dartmouth to Princeton	6	....	....	927	....	
do. north from Princeton	6	....	....	739	....	1,666
York st., west from Main	8	....	281	....	....	
do. west from wrought-iron	8	....	....	....	183	
do. west from 8"	6	....	....	....	497	961
Totals		120,151	78,409	306,793	113,494	618,847

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MAIN AND DISTRIBUTION PIPE.—CONCLUDED.

RECAPITULATION BY SIZES.

SIZES.	High Service.			Low Service.			Totals in Feet.
	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	
¾-inch	.....	.....	.....	180	.....	180	180
1-inch	902	.....	902	460	.....	460	1,362
1¼-inch	4.188	.....	4,188	1,795	.....	1,795	5,983
1½-inch	831	.....	831	196	.....	196	1,027
2-inch	19,011	.....	19,011	3,951	.....	3,951	22,962
3-inch	37	.....	37	8,492	1,181	9,673	9,710
4-inch	5,779	36,243	42,022	11,728	11,205	22,933	64,955
6-inch	15,588	118,524	134,112	21,141	77,464	98,605	232,717
8-inch	10,317	53,735	64,052	11,243	13,175	24,418	88,470
10-inch	.....	4,101	4,101	.....	972	972	5,073
12-inch	1,050	18,929	19 979	8 844	8,969	17,813	37,792
16-inch	9,874	13,649	23,523	6,014	518	6,532	30 055
20-inch	.....	1,706	1,706	4,365	10	4,375	6,081
24-inch	52,574	6,331	58,905	.....	.....	.....	58,905
30-inch	.....	40,019	40,019	.....	.....	.....	40,019
36-inch	.....	13,556	13,556	.....	.....	.....	13,556
Totals	120,151	306,793	426,944	78,409	113,494	191,903	618,847

RECAPITULATION BY MATERIAL.

MATERIAL.	High Service.		Low Service.		Totals.	
	Feet.	Miles.	Feet	Miles.	Feet.	Miles.
Cement-Lined or Wrought-Iron	120,151	22 76	78,409	14.85	198,560	37.61
Cast-Iron	306,793	58.10	113,494	21.50	420,287	79.60
Totals	426,944	80.86	191,903	36.35	618,847	117.21

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TWENTY-SECOND ANNUAL REPORT.

Water Commissioners

SPRINGFIELD, MASS.

1895.

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City of Springfield.

TWENTY-SECOND ANNUAL REPORT

OF THE

Board of Water Commissioners

TO

THE CITY COUNCIL,

TOGETHER WITH THE

TS OF THE REGISTRAR AND SUPERINTENDENT

FOR THE YEAR 1895.

SPRINGFIELD, MASS.:
CLARK W. BRYAN CO., CITY PRINTERS.
1896.

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WATER COMMISSIONERS' REPORT.

WATER COMMISSIONERS' OFFICE,
43 BRIDGE STREET.

SPRINGFIELD, MASS., December 30, 1895.

To the City Council of the City of Springfield:

The Board of Water Commissioners have the honor to submit herewith their twenty-second annual report of the finances and condition of the Water Department for the year ending December 10, 1895, including the reports of the Water Registrar and Superintendent.

LUDLOW MAIN No. 2.

We are pleased to state that, with the exception of one small claim for land damage, all the bills on account of this work have been settled and $40,000 of the amount appropriated for the work has been placed to the credit of the sinking fund, leaving the sum of $3,723.26 still on hand. We would recommend that $3,000 of this amount be also placed in the sinking fund.

In the laying of this main, forty-eight different parcels of land were entered upon and crossed, and the damages for crossing forty-seven of these parcels have been amicably settled without any recourse to the courts.

The total amount paid for damages in laying about ten miles of pipe on private property is $4,899.50.

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CONSTRUCTION.

The total amount charged to this account during 1895 is $27,649.79, including the extension of 32,368 feet of distribution mains, or a trifle over six miles, making a present total of 123.65 miles of pipe in the system.

The above does not include the service or branch pipes to the houses and buildings supplied.

The above amount of extensions is much larger than that for previous years, but your Commissioners believe it to have been a wise expenditure, as the additional water rates derived from these extensions will not only pay a good rate of interest on their cost, but in addition give fire protection to the outlying property and increase, in a large measure, the value of the taxable property of the city.

This work will need to be continued so long as the city continues to grow and prosper. This demand for extension of mains is one of the surest indications of growth.

STATEMENT.

Extensions	1890,	were	9,962	feet,	cost	$7,833 06
"	1891,	"	14,927	"	"	10,396 00
"	1892,	"	24,853	"	"	16,253 21
"	1893,	"	25,079	"	"	17,090 71
"	1894,	"	20,280	"	"	13,491 16*
"	1895,	"	32,368	"	"	25,302 47

MAINTENANCE.

The total amount charged to this account is $119,971.67, as follows:

GENERAL MAINTENANCE.

Management and repairs, (operating, etc.,)	$18,478 33	
Interest on bonds,	97,750 00	
Taxes (reservoir property),	191 16	
		$116,419 49

* (Corrected amount; cost as given in 1894 report was erroneous).

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SPECIAL MAINTENANCE.

Distribution mains—renewals, .	$906 24	
Expense, Perkins hydrants (changing),	2,252 23	
Damages, ...	270 00	
Engineering (mapping), . . .	69 62	
Legal expense, ...	54 09	
		3,552 18
Total, ...		$119,971 67

There have been added to the system during the year 418 new service connections, making the total number 7,900.

The following summary shows the number of service connections added each year since 1884.

In 1885, . . .	224	new connections.
In 1886, . . .	282	"
In 1887, . . .	300	"
In 1888, . . .	328	"
In 1889, . . .	350	"
In 1890, . . .	273	"
In 1891, . . .	411	"
In 1892, . . .	452	"
In 1893, . . .	367	"
In 1894, . . .	482	"
In 1895, . . .	418	"

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FINANCIAL.

The cash receipts from water rates, services, repairs, etc., amount to $211,869.55. This is a marked increase over the gain of previous years, as shown in the following statement of the same since the year 1884 :—

YEAR.	CASH RECEIPTS.	INCREASE.
1885,	$99,431 00	. . .
1886,	106,875 33	$7,444 33
1887,	117,196 84	10,321 51
1888,	129,463 87	12,267 03
1889,	138,457 42	8,993 55
1890,	146,860 22	8,402 80
1891,	155,447 90	8,587 68
1892,	171,588 74	16,140 84
1893,	183,341 69	11,752 95
1894,	187,200 00	3,858 31
1895,	211,869 55	24,669 55*

The past season has been a most prosperous one. The receipts have been sufficient to meet all charges for interest on the bonds, all cost of maintenance and the laying of six miles of new distribution mains, and yet leave a balance of $41,402.76 for the sinking fund.

The net total bonded indebtedness of the city on account of the water works, and the condition of the sinking fund for the redemption of same, are shown in the following statements :—

* $1,730.49 of this amount is on account of bills charged in 1894, or a gain of just this sum in the amount of bills remaining unpaid at the close of 1895. For further remarks concerning this increase of cash receipts reference may be had to the Registrar's report under "Detail Financial Statements," — "Receipts."

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BONDED DEBT.

1,000 water bonds bearing interest at 7 per cent. (par value $1,000 each), issued in 1873 and 1874, and falling due as follows: $25,000 payable each year from April 1, 1894 to April 1, 1902, ...		$225,000 00	
$775,000, all payable April 1, 1903,		775,000 00	
		$1,000,000 00	
Less amounts due and paid as follows:			
April 1, 1894, .	$25,000 00		
April 1, 1895, .	25,000 00	50,000 00	
			$950,000 00
200 water bonds bearing interest at 6 per cent. (par value $1,000 each), issued in 1875 and all due April 1, 1905, ...			200,000 00
125 water bonds bearing interest at 3½ per cent. (par value $1,000 each), issued in 1890 for Ludlow reservoir improvement, and all due October 1, 1920, ...			125,000 00
350 water bonds bearing interest at 4 per cent. (par value $1,000 each), issued in 1893 for Ludlow main No. 2, and due as follows: $200,000 payable April 1, 1913, . .		$200,000 00	
$150,000 payable October 2, 1923,		150,000 00	
			350,000 00
Total account water works, . .			$1,625,000 00

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SINKING FUND.

Balance in hands of Sinking Fund Commissioners, December 10, 1894,		$48,799 16
Balance transferred from water works receipts of 1894, ...	$25,105 89	
Transferred from Ludlow main No. 2 fund, 1895, ...	40,000 00	
Interest on investments, 1895, . .	3,733 92	
		68,839 81
Balance in hands of Sinking Fund Commissioners, December 10, 1895,		$117,638 97
Balance available from water works receipts of 1895, ...		41,402 76
Total amount available December 10, 1895, ...		$159,041 73

We would recommend the continuance of the policy pursued in 1893 and 1894, of paying the $25,000, for 7 per cent. bonds falling due each year, from funds raised by taxation, and that the sinking fund be left undisturbed towards the redemption of the $775,000 worth of bonds all falling due April 1, 1903.

LUDLOW RESERVOIR.

Since the emptying of this reservoir three years ago up to about the 20th of September last the quality of the water had been of a high character and no algæ had shown itself. On the 15th of September last the thermometer at the reservoir fell to 33 degrees, chilling the top, and thus the cold water, naturally being heavier, went to the bottom and the warmer water of the bottom came to the surface.

On September 20th, 21st and 22d the thermometer registered each day at 90 degrees, being the hottest spell of the season.

Thus the conditions were right for the rapid growth of algæ and for several weeks the water was in bad condition.

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Fortunately we were able to supply the city from the water stored in the Knight and Gold reservoir on Jabish brook. We immediately began to empty the Ludlow reservoir, drawing the water down as far as was prudent.

Since then it has been refilled with fresh water and the quality is now good.

How it will act next season we cannot say. It may become necessary to repeat the operation of three years ago and empty the reservoir entirely. It will, at least, require careful watching.

JABISH BROOK.

Another year's use of this water more fully demonstrates the statement made in our report for 1894, that in seasons of drouth it is of little use, excepting what is saved by storage in times of flood. Whether or not we shall be compelled to increase the storage capacity depends upon the future behavior of the Ludlow reservoir.

CLAIMS.

Claims, to a large amount, have been presented by the mill owners on the Chicopee river for damages resulting from the diversion of the water of Jabish brook, and these claims are still pending.

RECOMMENDATIONS.

In view of the fact that much inconvenience has arisen in laying new pipes in the streets, for want of knowledge of location of pipes already laid for steam, gas, telephone and electric light wires, sewers, etc., we would recommend that an ordinance be passed that no pipes or conduits of any kind, or for any purpose, be allowed to be placed in any street until a location therefor be given in writing by the city engineer, who should keep a record thereof.

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DETAILS.

Detailed accounts of the condition of the finances and work of the department for the year will be found in the reports of the Water Registrar and Superintendent to the Board, which reports are hereto annexed and made a part of the report of your Commissioners.

Respectfully submitted,

C. L. GOODHUE,
J. F. BIDWELL,
CHAS. L. LONG,
Board of Water Commissioners.

BOARD OF ALDERMEN, December 30, 1895.

Accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1895.

Read, concurred.

WILLIAM E. GILBERT, *Clerk.*

Approved, December 31, 1895.

CHAS. L. LONG, *Mayor.*

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WATER REGISTRAR'S REPORT.

To the Board of Water Commissioners of the City of Springfield:

GENTLEMEN: — The following report of the Water Registrar for the fiscal year ending December 10, 1895, is herewith respectfully presented:—

As in my last report, for convenient reference I have divided the following statements into three principal divisions, viz.:—

1.—General Financial.
2.—Detail Financial.
3.—Miscellaneous.

GENERAL FINANCIAL STATEMENTS.

CASH ACCOUNT.

(*Exclusive of Ludlow Main No. 2 Fund.*)

To collections paid City Treasurer by City Collector,	$211,869 55	
To amounts uncalled for on pay rolls,	2 17	
		$211,871 72
By approved bills and pay rolls paid by City Treasurer,	$72,718 96	
By interest on water bonds paid by City Treasurer,	97,750 00	
By balance transferred to sinking fund by City Treasurer,	41,402 76	
		$211,871 72

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LUDLOW MAIN NO. 2 FUND.

To balance in hands of City Treasurer, December 10, 1894, ...	$45,288 99	
To amount received for rental of shanties, etc., to laborers, ...	224 37	
To amount received from water works account for material furnished, etc., .	1,584 46	
Total available, 1895, ...		$47,097 82
By approved bills paid by City Treasurer, 1895, ...	$3,374 56	
By amount transferred to sinking fund, per order of City Council, ...	40,000 00	
		43,374 56
To balance in hands of City Treasurer, December 10, 1895, ...		$3,723 26

Aggregate receipts from all sources to date, classified as follows:—		
From sale of 350 water bonds at $1,000 each,	$350,000 00	
From premium on sale of 200 bonds, . .	8,130 00	
From interest on bank certificates of deposit,	1,748 22	
From interest on proceeds loaned City of Springfield account, ...	1,333 33	
From sales and refunds, ...	3,032 40	
Total, ...		$364,243 95
Aggregate expenditures to date, classified as follows:—		
For approved bills and pay rolls, 1893, .	$277,610 52	
For approved bills and pay rolls, 1894, .	39,535 61	
For approved bills and pay rolls, 1895, .	3,374 56	
	$320,520 69	
For transfer to sinking fund, 1895, . .	40,000 00	
Total, ...		$360,520 69
Balance, as above, ...		$3,723 26

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The net cost of construction and maintenance during the year has been charged to the following accounts:—

CONSTRUCTION.

(Exclusive of Ludlow Main No. 2.)

Distribution mains—extensions,	$25,302 47
Hydrant extensions,	2,176 12
Standpipes—for street sprinkling,	119 06
Office improvements, first floor,	52 14
Total,	$27,649 79

MAINTENANCE.

General:—		
Management and repairs,	$18,478 33	
Interest, coupons,	97,750 00	
Taxes,	191 16	
		$116,419 49
Special:—		
Distribution mains—renewals,	$906 24	
Expense, Perkins hydrants (changing),	2,252 23	
Damages,	270 00	
Engineering,	69 62	
Legal expense,	54 09	
		3,552 18
Total,		$119,971 67

COST OF WATER WORKS.

(Exclusive of Ludlow Main No. 2.)

Total construction accounts, December 10, 1894,	$1,671,408 47
Aggregate of construction accounts, 1895,	27,649 79
Total construction accounts, December 10, 1895,	$1,699,058 26
Divided as follows:—	
Balance of old "Construction" account in ledger to December 10, 1893 (in future to be analyzed and separated, so far as possible, into its component construction and property accounts),	$1,656,562 98

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Aggregate of new construction and property accounts, as classified in ledger and annual reports for 1894 and 1895, . .	42,495 28
Total, as stated, ...	$1,699,058 26

COST OF LUDLOW MAIN NO. 2.

(Not included above.)

Net cost of this work as completed (save one or two claims for damages yet unsettled) shown in following statement: —

	1893.	1894.	1895.	TOTAL.
Approved bills and pay rolls paid by City Treasurer—see "Ludlow Main No 2 Fund,"	$277,610 52	$39,535 61	$3,374 56	$320,520 69
Received by City Treasurer for sales and refunds, to credit of the above—see "Ludlow Main No. 2 Fund," . .	1,133 92	89 65	1,808 83	3,032 40
Net cost to December 10, 1895, ...	$276,476 60	$39,445 96	$1,565 73	$317,488 29

Total net cost, classified as follows: —

Engineering—services, ...	$3,440 94	
Engineering—expenses, ...	1,767 73	
		$5,208 67
Legal expense, ...		10 00
Damages and right of way, . . .		4,899 50
Cast iron pipe, ...		211,591 77
Gates and valves, ...		4,851 98
Pig lead for joints, ...		10,142 20
Packing and miscellaneous material, . .		604 67
Labor—pipe laying and trenching, . .		62,298 40
Teaming material, ...		11,456 51
Tools and supplies, ...		5,202 73
Incidentals, ...		1,221 86
Total as stated, ...		$317,488 29

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BONDED DEBT.

(As per books of City Treasurer.

950 water bonds bearing interest at 7 per cent. (par value $1,000 each), issued in 1873 and 1874, and falling due as follows: $25,000 payable each year from April 1, 1896, to April 1, 1902,	$175,000 00	
$775,000, all payable April 1, 1903,	775,000 00	
		$950,000 00
200 water bonds bearing interest at 6 per cent. (par value $1,000 each), issued in 1875 and all due April 1, 1905,		200,000 00
125 water bonds bearing interest at 3½ per cent. (par value $1,000 each), issued in 1890 for Ludlow reservoir improvement, and all due October 1, 1920,		125,000 00
350 water bonds bearing interest at 4 per cent. (par value $1,000 each), issued in 1893, for Ludlow main No. 2, and due as follows:		
$200,000 payable April 1, 1913,	$200,000 00	
$150,000 payable October 2, 1923,	150,000 00	
		350,000 00
Total account water works,		$1,625,000 00

SINKING FUND.

Balance in hand of sinking fund commissioners, December 10, 1894,		$48,799 16
Balance transferred from water works receipts of 1894,	$25,105 89	
Transferred from Ludlow main No. 2 fund, 1895,	40,000 00	
Interest on investments, 1895,	3,733 92	
		68,839 81
Balance in hands of sinking fund commissioners, December 10, 1895,		$117,638 97
Balance available from water works receipts of 1895,		41,402 76
Total amount available, December 10, 1895,		$159,041 73

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INVENTORY.

The value of stock, tools, office furnishings, etc., on hand December 1, 1895 (as per report of the Superintendent) is distributed to the following accounts:—

Cast-iron pipe stock,	$4,600 92	
Wrought-iron pipe stock,	2,206 70	
Meter stock,	347 20	
Stores and supplies,	975 29	
Tools and machines,	2,940 88	
Office furniture and fixtures,	1,201 20	
Stable stock and fixtures,	1,236 15	
Total,		$13,508 34

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DETAIL FINANCIAL STATEMENTS.

RECEIPTS.

The following statements of the collection accounts show the division of the cash receipts of the department.

BILLS CHARGED COLLECTOR.

COLLECTION ACCOUNTS.	Uncollected Dec. 10, 1894.	Charged 1895.	Total.
Water rates—annual,	$1,339 26	$114,867 96	$116,207 22
Water rates—meter,	116 64	53,508 36	53,625 00
Water rates—hose and fountains,	80 00	7,085 28	7,165 28
Water rates—builders,	324 00	1,123 90	1,447 90
Water rates—sprinkling streets,		4,580 50	4,580 50
Water rates—miscellaneous,		1,191 49	1,191 49
Services and repairs,	2,124 08	16,740 25	18,864 33
Meters and repairs,	752 15	5,187 28	5,939 43
Fines and penalties,	16 00	112 00	128 00
Off and on,		20 36	20 36
Seals,		72	72
Miscellaneous accts. (sales, etc.),	312 39	10,553 96	10,866 35
Totals charged, 1895,	$5,064 52	$214,972 06	$220,036 58

AMOUNTS ABATED TO COLLECTOR.

COLLECTION ACCOUNTS.	Amounts.	Total.
Water rates—annual,	$4,111 60	
Water rates—meter,	393 58	
Water rates—hose and fountains,	155 83	
Water rates—builders,	59 33	
Water rates—miscellaneous,	2 00	
Services and repairs,	57 57	
Meters and repairs,	20 71	
Fines and penalties,	12 00	
Off and on,	50	
Miscellaneous accounts,	19 88	
Total abated, 1895,		$4,833 00

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AMOUNTS UNCOLLECTED.

COLLECTION ACCOUNTS.	Amounts.	Total.
Water rates—annual,	$822 17	
Water rates—meter,	27 11	
Water rates—hose and fountains,	50 00	
Water rates—builders,	122 00	
Water rates—miscellaneous,	52 62	
Services and repairs,	1,319 95	
Meters and repairs,	124 89	
Fines and penalties,	2 00	
Miscellaneous accounts,	813 29	
Total uncollected, 1895,		$3,334 03

AMOUNTS COLLECTED AND PAID CITY TREASURER.

COLLECTION ACCOUNTS.	Amounts.	Amounts.	Total.
Water rates—annual,	$111,273 45		
Water rates—meter,	53,204 31		
Water rates—hose and fountains,	6,959 45		
Water rates—builders,	1,266 57		
Water rates—sprinkling streets,	4,580 50		
Water rates—miscellaneous,	1,136 87		
Total for water,		$178,421 15	
Services and repairs,	$17,486 81		
Meters and repairs,	5,793 83		
Fines and penalties,	114 00		
Off and on,	19 86		
Seals,	72		
Miscellaneous accounts,	10,033 18		
Total for material, labor, etc.,		33,448 40	
Total collected, 1895,			$211,869 55
Total in balance with bills charged collector,			$220,036 58

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It will be seen that the *increased amount of bills charged* to the collector in 1895 over that in 1894, including balance from previous year, is $23,326.60 and that the *increased amount of bills collected* is $24,669.55.

This is the largest increase in bills charged and collected during any one year since the purchase of the works by the city.

COMPARISON: 1894–1895.

	1894.	1895.	DIFFERENCE 1895.
Amounts collected,	$187,200 00	$211,869 55	+$24,669 55
Amounts uncollected,	5,064 52	3,334 03	—1,730 49
Amounts abated,	4,445 46	4,833 00	+387 54
Amounts charged,	$196,709 98	$220,036 58	+$23,326 60

INCREASE IN RECEIPTS SINCE 1884.

YEAR.	CASH RECEIPTS.	INCREASE.
1885	$ 99,431 00	. . . .
1886	106,875 33	$ 7,444 33
1887	117,196 84	10,321 51
1888	129,463 87	12,267 03
1889	138,457 42	8,993 55
1890	146,860 22	8,402 80
1891	155,447 90	8,587 68
1892	171,588 74	16,140 84
1893	183,341 69	11,752 95
1894	187,200 00	3,858 31
1895	211,869 55	24,669 55

This remarkably large increase during the past year cannot be due to the number of new service taps added, as the total number of such is about the same as in the preceding year, the net addition being some less.

One cause for a portion of this increase is the discovery, through the books of the plumbing inspector, of a considerable number of fixtures connected to the water system in the resident sections of the city during the past two years, for

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which no permits were requested and of which no reports were made at this office, as required by the rules of the department.

A portion of this increase is also due to the additional amount of bills charged for labor, material, etc., as shown in the preceding statements, including all unusual accounts, such as "Bonus," etc.—(see note under "Expenditures," "Distribution Mains—Extensions."

INCOME:—VALUE ACCOUNTS.

The following accounts, although not appearing as receipts on the Collector's books, are just as truly a part of the income of this department as is the cash collected at his office, and in order, therefore, that the department's bookkeeping shall be *honest* and of any value, these accounts *must appear on the ledger*, in their proper relations, as shown below :—

USE OF WATER BY THE CITY.

(Charged and credited as shown below).

Almshouse and annexed buildings, . .		$314 00
City hall (motor discontinued), . .		94 00
Fire department (buildings), . . .	$760 50	
Fire department (hydrant service), 793 fire hydrants at $20 (amount fixed by city ordinance).	15,860 00	
		16,620 50
Highway department (city yards, etc.), .		43 00
Parks (fountains, $550; hose, $80), . .		630 0
Police department (buildings), . .		74 50
Scavenger department and Wayfarers' lodge,		67 00
School department (buildings), . .		2,517 30
Amount carried forward, . .		$20,360 30

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Amount brought forward, . .		$20,360 30
Sewer department (building purposes), .	$127 75	
Sewer department (flushing), (amount fixed by city ordinance), ...	500 00	
		627 75
Watering tanks and drinking fountains, 11 at $50, ...		550 00
Amount charged (on ledger only) to "City of Springfield—special account," . .		$21,538 05
(*NOTE: Called a resource account in partial offset to liability accounts of City Bonds and appropriations.*)		
Water department (buildings), amount charged (on ledger only) to "Expense," . .		83 00
Total credited (on ledger, as gain account) to "Water rates—city use," . .		$21,621 05

RENTS OF REAL ESTATE.

(*Charged and credited as shown below*).

Superintendent's house, No. 37 Bridge street (charged to "Salaries"), . . .	$300 00	
Hostler's and driver's house, No. 49 Bridge street (charged to "Teams"), . .	300 00	
Keeper's house, Ludlow reservoir (charged to "Care and repairs—Ludlow reservoir"),	180 00	
Keeper's house, Van Horn reservoir (charged to "Care and repairs—Van Horn reservoir"),	100 00	
Mowing land at Ludlow;—paid for by hay delivered; (charged to "Teams"), . .	35 00	
Total credited to "Rents," . .		915 00
Total income: — value accounts, . .		$22,536 05

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At this point I wish to again make my *annual* recommendation that the Water Department be reimbursed, through the collector, for the value of the use of water by the City, by an actual *cash transfer* from the appropriations to the credit of the various city departments receiving the benefit of such use, and that certain low values placed upon portions of such use by ordinance in 1880, be readjusted on a more equitable basis; also that the ordinance referred to be superseded by one embracing more fully and justly the needs of the department as demonstrated by the experience of the last fifteen years.

EXPENDITURES.

The following statements show the distribution of the *net cost* of the principal construction and maintenance accounts.

CONSTRUCTION.

DISTRIBUTION MAINS—EXTENSIONS.

LOCALITY.	PIPE.	SIZE.	COST.
Acushnet avenue,	277 feet,	6 inches,	$177 15
Alden street,	35 "	6 "	58 68
Allen street,	1,889 "	6 "	1,125 41
Armory street (extension to Springfield),	2,584 "	12 "	2,862 21
Armory street (extension to Worthington)	144 "	4 "	259 71
Armory street (north from Worthington),	230 "	8 "	
Armory street (extension of 8 inch),	472 "	8 "	338 02
Bay street,	265 "	8 "	143 03
Bellevue avenue,	1,728 "	8 "	1,112 51
Birnie avenue,	281 "	6 "	211 51
Butler street,	169 "	4 "	86 63
Butler and Everett streets (connecting),	197 "	4 "	95 65
Chapin street (including Marion street extension),	1,239 "	6 "	738 33
Chestnut street (Worthington to Harrison avenue),	901 "	12 "	1,865 49
	14 "	8 "	
Chestnut street (Harrison avenue south to 6 inch),	630 "	8 "	545 29
Amount carried forward,			$9,619 62

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LOCALITY.	PIPE.	SIZE.	COST.
Amount brought forward, . .			$9,619 62
Chestnut street (Springfield to Eagle),	613 feet,	8 inches,	513 28
Chicopee Falls road (Ludlow), . .	1,219 "	2 "	174 84
Concord terrace, ...	188 "	2 "	50 73
Cortland street, ...	170 "	6 "	170 25
Cross street (connecting 4 inch to 10 inch at Willow street—part cost), .	12 "	6 "	25 00
Dickinson street, ...	163 "	6 "	92 06
Eagle street, ...	582 "	6 "	359 26
Everett street, ...	49 "	4 "	23 56
Forest park (cost of 6 inch over 4 inch),	2,610 "	6 "	365 80
George street, ...	170 "	2 "	50 08
Gladwood avenue, ...	492 "	6 "	266 65
Hancock avenue, ...	636 "	6 "	467 90
Harrison avenue, ...	895 "	12 "	1,628 14
Hickory street, ...	810 " 146 "	3 " 1½ "	193 87
Homer street, ...	644 "	6 "	395 13
Johnson street, ...	109 "	6 "	92 62
Kenwood avenue, ...	23 "	6 "	66 31
La Verne avenue, ...	26 "	6 "	66 18
Lincoln street, (part cost), ...	804 "	6 "	398 04
Long Hill street, ...	45 "	8 "	35 83
Main street (high service extension south),	1,778 "	12 "	2,634 60
Maple Dell, ...	1,013 "	6 "	649 25
Maplewood terrace, ...	1,378 "	6 "	885 07
Merwin street, ...	716 "	6 "	405 12
Newell street (Rutledge avenue), . .	326 "	6 "	225 97
Northampton avenue, ...	144 "	6 "	70 07
Oak street, Indian Orchard, ...	169 "	4 "	102 38
Oakley street, ...	305 "	6 "	188 59
Park avenue, ...	66 "	1¼ "	9 84
Pynchon street (material only), . .	59 "	8 "	47 98
Rimmon avenue, ...	1,038 "	6 "	598 96
Silver street, ...	573 "	4 "	199 34
South street, ...	1,167 " 411 "	8 " 6 "	1,178 02
Springfield street (west from Armory),	240 "	8 "	198 00
Summer street (part cost), ...	1,221 " 38 "	8 " 6 "	713 94
Springfield street (east from Chestnut),	414 "	8 "	374 84
Spruceland avenue, ...	625 "	6 "	370 87
Suffolk street, ...	1,385 "	6 "	753 27
Sumner avenue, ...	216 "	8 "	199 98
Amount carried forward, . .			$24,861 24

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LOCALITY.	PIPE.	SIZE	COST.
Amount brought forward, . .			$24,861 24
Taylor avenue, (part cost), ...	197 feet,	2 inches,	69 38
Warren avenue, ...	36 "	2 "	9 47
Wilbraham avenue, ...	504 "	6 "	306 50
Worthington street, ...	89 "	8 "	55 88
Total, ...			*$25,302 47

HYDRANT EXTENSION.

(Not charged to streets.)

Setting new hydrants (all 6 inch):

LOCALITY.	COST.	TOTAL.
Bridge street, at Barnes, ...	$116 81	
Chestnut street, at Taylor, ...	82 98	
Dwight street, at Bridge, ...	91 61	
Dwight street, at New, ...	90 97	
Dwight street, at No. 109, ...	98 14	
Franklin street, at Main, ...	86 24	
Lyman street, at Main, ...	77 34	
Main street, at Liberty, ...	88 56	
Main street, at No. 360, ...	102 46	
Main street, at No. 388, ...	97 82	
Main street, at No. 415, ...	108 18	
Main street, at No. 445, ...	105 89	
State street, at No. 52, ...	85 93	
State street, at No. 71, ...	64 15	
State street, at Willow, ...	83 40	
State street, at Church of the Unity, ...	72 88	
State street, at High school, ...	71 87	
State street, at Cathedral, ...	123 06	
State street, opposite Woodworth avenue, . .	116 68	
State street, at New England railroad, . .	130 67	
Stockbridge street, at Willow, ...	75 29	
		$1,970 93
Replacing 4 inch with 6 inch:		
Bliss street, at Main, ... No. 103,	$29 06	
Central street, opposite No. 63, . . No. 181,	22 50	
Court street, opposite City Hall, . . No. 91,	9 25	
Amounts carried forward, . .	$60 81	$1,970 93

*In making some of the above extensions there was received, from parties directly interested in the same, the total sum of $3,410 as "Bonus," which sum is included in "Miscellaneous Accounts" charged and paid to the Collector as shown under "Receipts."

Deducting this amount from the total cost of extensions given, the balance of $21,892.47 represents the actual expenditure from the ordinary receipts of the department.

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LOCALITY.		COST.	TOTAL.
Amounts brought forward,		$60 81	$1,970 93
Elm street, at Main,	No. 94,	9 25	
Hampden street, at Main,	No. 70,	34 23	
Pine street, at Maple,	No. 556,	9 25	
State street, at Water,	No. 98,	25 65	
			139 19
Setting gates for old hydrants.			
Hancock street, at State,	No. 468,	$18 00	
Main street, opposite Gardner,	No. 178,	15 00	
State street, at City Library,	No. 388,	15 00	
Water street, at Gardner,	No. 142,	18 00	
			66 00
Total,			$2,176 12

STANDPIPES—FOR STREET SPRINKLING.

Chestnut street,	$34 50	
Howard street,	24 40	
State street, at Reed,	31 67	
Sumner avenue,	28 49	
Total,		$119 06

MAINTENANCE.

MANAGEMENT AND REPAIRS.

Salaries,	$7,421 74	
Inspection,	2,809 19	
Teams (balance undistributed),	94 96	
Tools and machines (net loss),	678 38	
Stores and supplies (net loss),	178 63	
Office furniture and fixtures (net loss),	516 82	
Stationery and printing,	336 57	
Mutual office account (proportion),	301 34	
Expense account,	437 38	
Telephone service,	100 95	
Off and on (services),	268 63	
Refunds,	12 86	
Expense, city departments,	29 24	
Frozen services,	231 50	
Petty maintenance,	472 11	
		$13,890 30
Care and repairs, Van Horn Reservoirs,	$620 44	
" " Ludlow Reservoir,	879 18	
" " Belchertown Reservoirs,	673 89	
Amounts carried forward,	$2,173 51	$13,890 30

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Amounts brought forward,	$2,173 51	$13,890 30
Care and repairs, Chapin Pond, Emergency supply,	15 00	
" " Ludlow main No. 1 (24 inch),	164 46	
" " Ludlow main No. 2 (36 inch, etc.),	35 73	
" " Distribution mains, cast iron,	190 58	
" " Distribution mains, wrought iron,	354 99	
" " Gates and valves,	163 14	
" " Hydrants,	402 18	
" " Standpipes,	166 32	
" " Drinking fountains,	37 57	
" " Meters,	42 50	
" " Services,	740 87	
" " Private telephone lines,	39 35	
		4,526 20
Repairs, No. 37 Bridge street,	$16 83	
" No. 43 Bridge street,	11 30	
" Stable, Bridge street,	1 14	
" No. 49 Bridge street,	32 56	
		61 83
Total,		$18,478 33

INTEREST ON BONDS.

$975,000 at 7 per cent., 6 months,	$34,125 00*	
$950,000 at 7 per cent., 6 months,	33,250 00*	
$200,000 at 6 per cent., 12 months,	12,000 00	
$125,000 at 2½ per cent., 12 months,	4,375 00	
$350,000 at 4 per cent., 12 months,	14,000 00	
Total,		$97,750 00

TAXES.

On reservoir property at Belchertown (per Acts of 1890, chapter 303),	$44 38	
On reservoir property at Ludlow (per Acts of 1893, chapter 352),	146 78	
Total,		$191 16

*Twenty-five $1,000 7 per cent. bonds, due and paid April 1, 1895.

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DISTRIBUTION MAINS—RENEWALS.

LOCALITY.	PIPE.	SIZE.	COST.
Cross street (connection at Willow, east),		4 to 10 inches,	*$33 63
Lincoln street, ...	804 feet,	6 "	*200 39
Summer street, ...	1,221 "	8 "	*509 08
Taylor avenue, ...	197 "	2 "	*14 18
Van Horn Reservoirs (from H.S.)	242 "	6 "	148 96
Total, ...			$906 24

EXPENSE—PERKINS HYDRANTS.

(Changing sams to open in conformity with all others in use.)

Number changed in January, ...	15	
" " " February, ...	41	
" " " March, ...	11	
" " " April, ...	14	
		Cost.
Total changed and reset, 1895, ...	81	$2,252 23

Total expense changing Perkins hydrants in 1894 and 1895, as follows: —

1894, ...	5	$245 91
1895, ...	81	2,252 23
Total, ...	86	$2,498 14

(Average cost per hydrant, $29.05)

DAMAGES.

Charles W. Alden, Ludlow, ...	$200 00	
Jabez Collins, 148 Alden street, ...	10 00	
Michael and Mary Coughlin, 144 Tenth street, .	60 00	
Total, ...		$270 00

* Part cost only :—balance charged to "Extensions."

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MISCELLANEOUS STATEMENTS.

FINES AND PENALTIES.

The following figures show the number of fines and penalties (of $2 each) due, charged, collected, abated and uncollected during 1895, the number charged being also the number of premises ordered shut off to enforce payment of same.

DIVISIONS.	For Unp'd Bills.		For Waste unchecked.	Total Number.
	Due Before 1895.	Due in 1895.		
Number uncollected, 1894, ...	8	0	0	8
Number charged, 1895, ...	1	55	0	56
Total charged collector, 1895, . .	9	55	0	64
Number collected, 1895, ...	5	52	0	57
Number abated, 1895, ...	4	2	0	6
Number uncollected, 1895, ...	0	1	0	1
Total, as above, ...	9	55	0	64

METERS AND INDICATORS.

Total number in use October 1, 1894, . . .		1,947
Number of meters (on service pipes) added (net),	246	
Number of indicators (on elevators and motors) added (net), ...	14	
Net total number added to October 1, 1895,		260
Total number in use October 1, 1895 (see table of same following), ...		2,207

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Total quantity of water metered during 1895,	355,608,935 gallons.
Average quantity metered per meter or indicator,	161,127+ "
Total amount charged during 1895, . . .	$53,508 36
Average amount charged per meter or indicator,	$24 24+
Average rate charged per 1,000 gallons . . .	15+ cents.

TABLE OF METERS AND INDICATORS.

(*To October* 1, 1895.)

Kind and Size.	½"	⅝"	¾"	1"	1½"	2"	3"	4"	6"	Indicators.	Totals.
Meters.											
Ball & Fitts, Piston			2								2
Crown	729		531	55	12	11	1	1			1,340
Desper	6		4			1					11
Empire				3							3
Hersey		248	311	22	11	8		5	1		606
Nash	4										4
Thomson		7	8	2	1						18
Undine (and Hartford)	5		4	1							10
Union Duplex		2	1								3
Union Rotary		58	21	2	1	4					86
Worthington		11	6		3	2					22
Indicators.											2,105
Desper (for elevators)										72	72
Friction (" ")										4	4
Graves (" ")										7	7
Ross (" motors)										2	2
Whitney (" ")										7	7
Whittier (for elevators)										8	8
Worthington (for elevators)										2	2
Totals	744	326	888	85	28	26	1	6	1	102	20

INSPECTION.

The nature of this division of the work is such that the need of it is constantly in advance of all attempts to bring it up to date, and with the growth of business and its attending detail, the present force of inspectors are obliged to give their time first to the most important work, or to that which cannot be left undone. Thus another year finds a smaller portion of the city covered in the general or "house to house" inspection, although with far better results than formerly, it is believed, from the fact that only those premises (mostly in the resident sections) were thus visited which were

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not supplied through meters. Many changes and additions were found which contributed somewhat to the large increase of bills committed to the collector.

Under "Detail Financial Statements," in assigning some of the causes for the large increase in receipts, I have already made reference to the additional fixtures found by the aid of the plumbing inspector's record books, some of which were put in nearly two years ago, being located in those sections of the city which have been neglected the most in our "house to house" inspection, and for which no permits had been asked, and of which no reports had been given, at this office, by the plumbers doing the work, as specified in the regulations of the Water Commissioners.

This shows unmistakably the need of another inspector for this particular line of work, and I would respectfully recommend that such an appointment be made by early spring.

As the rules of the department concerning permits and reports in case of additional fixtures are so generally ignored by property owners and plumbers, snch rules having been allowed to practically become a dead letter, I can see no alternative but a constant increase of the inspection force.

The following tabulated statement shows the division of work under this head and of the time of each inspector:—

CLASSIFICATION.	Inspectors.			Total No. of Days.
	No. 1.	No. 2.	No. 3.	
	Days.	Days.	Days.	
Reading and inspection of meters	118	129	115	362
Turning on and off ⅝ hose		7		7
Inspection of hose use—general		23	17	40
General or "house-to-house" inspection		43	53	96
Semi-annual and monthly inspection (billing)	68	3		71
Monthly inspection of vacancies reported	3		40	43
Special inspection (leaks, bills and collections)		23	15	38
Special inspection (real estate sales)	23			23
Office work	82	66	24	172
Sickness			30	30
Total (294 working days in the year)	294	294	294	882

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The total number of leaking fixtures found and remedied as recorded during 1895 is 505, or somewhat more than during the previous year.

STATISTICS.

The classification of consumers supplied at date, also a summary of statistics for the year, in convenient form as recommended by the New England Water Works Association, will be found hereto annexed.

All of which is respectfully submitted,

A. R. HATHAWAY, *Water Registrar.*

SPRINGFIELD, MASS., December 30, 1895.

BOARD OF WATER COMMISSIONERS, December 30, 1895.

Read, accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

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COMPARATIVE STATEMENT.

Showing the Classes of Consumers and the Number of Each Class Supplied by the Aqueduct Company in 1864, and by the City in 1874, 1880, 1890, 1894, 1895.

CLASSES.	1864.	1874.	1880.	1890.	1894.	1895.
Bakeries,	. .	. .	8	15	31	27
Banks,	2	9	12	15	15	16
Barber Shops,	2	14	30	30	46	55
Baths,	. .	439	829	2654	4747	5856
Beer Pumps,	. .	. .	. .	. .	47	50
Boarding Houses,	. .	33	55	97	108	101
Breweries,	. .	. .	2	2	2	2
Cemeteries,	. .	. .	1	5	6	6
Churches (from 1895),	. .	. .	. .	. .	. .	34
Churches, Halls and Public Buildings (to 1895),	2	12	14	60	63	. .
Dyehouses and Bleacheries,	2	2	3	3	4	4
Elevators,	. .	. .	15	96	107	121
Families,	1288	3637	4893	8511	11078	11781
Fish Tanks,	. .	. .	. .	8	8	8
Foundries,	4	5	6	12	12	11
Fountains (private),	. .	. .	12	18	11	11
Fountains (public),	. .	. .	. .	10	10	11
Gas Works,	. .	. .	1	1	2	2
Greenhouses,	2	3	9	8	11	13
Halls (from 1895),	. .	. .	. .	. .	. .	21
Hose,	. .	. .	885	1857	2629	3148
Hotels,	7	12	15	20	19	18
Laundries,	. .	6	6	25	29	32
Manufactories,	6	50	80	78	64	60
Markets,	8	31	54	60	65	75
Motors,	. .	. .	13	44	37	41
Offices and Rooms,	. .	88	521	1088	1453	1475
Parks (from 1895),	. .	. .	. .	. .	. .	11
Photographers,	. .	6	9	11	10	10
Printers and Publishers,	. .	. .	. .	25	26	26
Public Buildings and Institutions (from 1895),	. .	. .	. .	. .	. .	17
Public Institutions (to 1895),	. .	. .	. .	6	7	. .
Railroads,	. .	. .	3	4	4	4
Restaurants,	5	14	17	24	28	28
Saloons,	9	34	32	45	43	44
Schools,	. .	12	15	33	36*	36
Shops,	18	51	88	189	220	230
Slaughterhouses,	. .	. .	. .	1	1	. .
Stables (private),	82	274	379	704	981	997
Stables (public),	6	14	23	30	31	28
Steam Engines,	. .	. .	48	74	84	71
Steam Heaters,	. .	. .	32	104	216	278
Stores,	125	225	320	359	440	455
Street Railways (from 1895),	. .	. .	. .	. .	. .	1
Urinals,	. .	131	296	435	438	393
Water-closets,	. .	1192	2402	6792	10475	11265
Watering Tanks and Drinking Fountains,	. .	. .	. .	12	11	11

*Misprinted in 1894 report as 37.

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SUMMARY OF STATISTICS.

(As Recommended by the New England Water Works Association.)

REPORT OF 1895,

Springfield Water Works, Hampden County, Mass.

Population by census of 1895, ... 51,534
Dates of construction :
Original works in city, by private company, . 1864
(Sale of same to city, 1872.)
Works at Ludlow, Mass., . . . 1873–1874–1875
Works at Belchertown, Mass., . 1890–1891
Additional main from Ludlow reservoir, 1893–1894
By whom owned, ... City of Springfield.
Sources of supply :
Low pressure—from impounding reservoirs in the city, fed by springs, surface water, and also by the high pressure.
High pressure—from impounding reservoirs in Ludlow and Belchertown, fed by natural streams, springs and surface water.
(Aggregate storage capacity, 2,304,762,000 gallons.)
Mode of supply, ... entirely by gravitation.

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FINANCIAL.

(NOTE.—All expenditures, including ordinary extension of mains, etc., are made from general receipts—from water rates, sales, etc., but *amount* of such expenditure for *extension of mains* is annually determined by the City Council.)

MAINTENANCE.

RECEIPTS.

INVENTORY of material, tools, etc., on hand Dec. 10, 1894,....			$14,520 47
FROM CONSUMERS (Division II):			
N. Water rates, fixed.	$120,636 34		
Q. Water rates, meter.	53,204 31		
C. Net receipts for water (from consumers).....	$173,840 65		
D. & U. Other sources (services, meters, repairs, rents, sales, etc.) (See "Services"—under "Distribution"—18, 19, 20, etc., note)	33,448 40		
E. Total.....		$207,289 05	
FROM PUBLIC FUNDS:			
F. Hydrants, 793 @ $20, (*value*)....	$15,860 00*		
G. Fountains, tanks, sewers, etc., (*value*).....	1,850 75*		
H. Street watering, (*cash*)..	4,580 50		
I. Public buildings, (*value*).	3,910 30*		
J. General appropriations, for bonded debt, (*cash*)..	25,000 00		
Total		51,201 55	
FROM REAL ESTATE RENTALS:			
House rent given employes in part payment for services, and mowing land rented at Ludlow, paid for by hay, (*value*).....		915 00*	
K. Gross receipts from all sources, 1895, (*cash and value*)			259,405 60
Total available (including material, etc., from previous year)			$273,926 07

EXPENDITURES.

GENERAL ACCOUNT:—			
AA. Management and repairs .	$18,478 33		
BB. Interest on bonds	97,750 00		
Taxes on reservoir prop'ty.	191 16		
		$116,419 49	
SPECIAL ACCOUNT:—			
Legal expense.....$	54 09		
Distrib'n mains, renewals...	906 24		
Changing hydrants.....	2,252 23		
Miscellaneous accounts....	339 62		
		3,552 18	
CC. Total maintenance for year.....		$119,971 67	
GG. (Including same under "Construction")—Services, meters, repairs, etc. (labor and material charged to consumers and included in "Receipts" under "D. & U.")		24,855 46	
Bonds paid		25,000 00	
Gross expenditures.....			$169,827 13
DD. BALANCE, divided as follows:			
Amount used for construction....	$27,649 79		
Cash transferred to sinking fund..	41,402 76		
Value city use of water, charged to City of Springfield.....	21,538 05		
Inventory of material, tools, etc., on hand Dec. 10, 1895.....	13,508 34		
			104,098 94
EE. Total (in balance with receipts)....			$273,926 07

*No *cash* income derived, but estimated amounts charged and credited in ledger and annual report.

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CONSTRUCTION.

Receipts.			Expenditures.			
R.	Balance from previous year (account "Ludlow Main No. 2,"),	$45,288 99	FF.	Extensions, distrib'n mains,		$25,302 47
	Amount from maintenance receipts,	27,649 79	GG.	Extensions, services (paid for by consumers, see "Maintenance"),		.....
S.	Bonds issued,	00 00	HH.	Special:—		
T.	Appropriations from tax levy (see *note* under "Financial"),	00 00		(*a*) Ludlow Main No. 2,	$1,565 73	
U.	Other sources (included with "D" under maintenance receipts),	.....		(*b*) Hydrant extensions,	2,176 12	
				(*c*) Miscellaneous,	171 20	3,913 05
			II.	Total construction for year,		$29,215 52
				Amount transferred by City Council from "Ludlow Main No. 2" fund to "Water Works" sinking fund,		40,000 00
			JJ.	Balance (account "Ludlow Main No. 2"),		3,723 26
V.	Total available,	$72,938 78	KK.	Total (in balance with receipts).		$72,938 78

GENERAL STATEMENTS.

W.	Net cost of works to date (including also cost to date of new "Ludlow Main No. 2," $317,488 29),			$2,016,546 55
X.	Bonded debt at this date,			$1,625,000 00
Y.	Value of sinking fund at this date,			$159,041 73
Z.	Rate of interest on bonded debt:—			
	7 per cent. on	$950,000 00		
	6 per cent. on	200,000 00		
	4 per cent. on	350,000 00		
	3½ per cent. on	125,000 00		
	Average rate=5.96+ per cent. on		$1,625,000 00	

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CONSUMPTION.

1.	Total population at date, (census of 1895), .	51,534
2.	Estimated population on lines of pipe at date, ...	47,000
3.	Estimated population supplied at date, .	41,000
4.	Total number gallons consumed for year (estimated), ...	1,692,892,000 gallons
5.	Passed through domestic meters, . .	355,608,935 gallons
6.	Passed through manufacturing meters, . (or 21-/- per cent.)	
7.	Average daily consumption (estimated), .	4,638,060 gallons
8.	Gallons per day to each inhabitant (estimated) (1), ...	90
9.	Gallons per day to each consumer (estimated) (3), ...	113
10.	Gallons per day to each tap (estimated) ("Distribution," 22), . . .	587

DISTRIBUTION.

MAINS.

1.	Kind of pipe used ;—wrought-iron, wrought-iron cement lined, and cast-iron.		
2.	Sizes ;—from ¾ to 36 inches.		
3.	Extended in 1895 (added to pipe table), .		39,194 feet
4.	Discontinued in 1895 (deducted from pipe table),		5,182 feet
5.	Total now in use, ...		123.65 miles
6.	Cost of repairs per mile, . . .		$6.03-/-
7.	Number of leaks per mile, . . . (Total leaks during year=51)		$\frac{41}{100}$ -/-
8.	Small distribution pipes,—less than 4 inches in diameter,—total length, . . .		41,622 feet
9.	Hydrants added in 1895 (public, net), .		76
10.	Number now in use, ...		793
11.	Stop gates added in 1895—total, . .		133
	(a) Public and private, 1895, net, .	115	
	(b) Ludlow Main No. 2, not before published, ...	18	
12.	Number now in use, ...		1,440
13.	Small stop gates, less than 4 inches—total,		267
	(a) High service, ...	150	
	(b) Low service, ...	117	
14.	Number of blow-off gates, . . .		86

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15. Range of pressure on mains at center for day and night:
    (a) High service, ... 100 to 120 pounds
    (b) Low service, ... 30 to 35 pounds

SERVICES.

16. Kind of pipe used ;— wrought-iron (tarred and galvanized) and cast-iron.
17. Sizes from ½ to 6 inches.
18. Extended in 1895 (in feet).
19. Discontinued in 1895 (in feet).
20. Total now in use (in miles).

NOTE.—Services paid for entirely by the consumers, and no special statistics kept of them.

21. Service taps added (net), ... 418
22. Number now in use, ... 7,900
23. Average length of service,
24. Average cost of service,

(See note under 18, 19, 20.)

25. Meters added (including indicators), (net), 260
    (a) Meters added, ... 246
    (b) Indicators, added, ... 14
26. Number now in use (including indicators), 2,207
    (a) Meters (on supply pipes), . 2,105
    (b) Indicators (on elevators and motors), 102
27. Motors and elevators added, (net), . . 18
    (a) Motors added, ... 4
    (b) Elevators added, ... 14
28. Number now in use, ... 162
    (a) Motors, ... 41
    (b) Elevators, ... 121

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SUPERINTENDENT'S REPORT.

To the Board of Water Commissioners:

GENTLEMEN:— I herewith submit the twenty-second annual report of the Superintendent for the year ending November 30, 1895.

The amount of pipe laid, and the number of gates and fire hydrants set, the amount of pipe discontinued, and the number of gates and fire hydrants taken out, are shown in the following tables.

MAIN PIPE LAID, GATES AND HYDRANTS SET.

NUMBER.	Extensions.	Renewals.	Private.	Totals.
Ft. of Pipe laid—High service.	30,687	254	3,043	33,984
Ft. of Pipe laid—Low service.	1,681	1,302	120	3,103
Totals laid, ...	32,368	1,556	3,163	37,087
Added to tables (changes, etc.,)	1,979	0	128	2,107
Totals, ...	34,347	1,556	3,291	39,194
Gates set—High service, .	63	4	43	110
Gates set—Low service, . .	13	3	10	26
Totals set, ...	76	7	53	136
Added to tables, (account previous years), ...	19	0	0	19
Totals,.	95	7	53	155
Fire hydrants set-High service	60	4	4	68
Fire hydrants set-Low service	17	5	0	22
Totals, ...	77	9	4	90

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MAIN PIPE, GATES AND HYDRANTS TAKEN OUT OR ABANDONED.

NUMBER.	TOTALS.
Feet of Pipe—High service,	1,629
Feet of Pipe—Low service,	3,553
Total,	5,182
Gates—High service,	13
Gates—Low service,	8
Total,	21
Fire Hydrants—High service,	4
Fire Hydrants—Low service,	6
Total,	10

There are now in use 123.65 miles of supply and distribution mains, a net addition of 6.44 miles the past season.

One of the most important lines laid in this work has been the extension of the twelve inch high service main in Main street, from Loring to Locust, which adds another supply to the congested district.

A twelve inch high service pipe has also been laid in Harrison avenue and in Chestnut street, from Main to Worthington, which, when extended to and through Liberty street to Carew and connected with the thirty inch main at that point, will add greatly to the efficiency of the fire service in the heart of the city.

Fire hydrants have been liberally placed on these lines, thus giving the Fire department additional facilities for extinguishing fires. Fire hydrants have also been set at various points on the old lines of both high and low service pipes, as

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recommended by the Fire Commissioners, although a much larger number have been set this season than has been the custom heretofore. The Fire Commissioners are still asking for more.

In addition to the hydrants reported in the tables, eighty-six have been taken out, changed so as to open the opposite way, and re-set. All the hydrants in the city proper now turn to the right to open.

Six hundred and sixty-five service taps have been made, a net addition of 418 in use. The total number now connected with the system is 7,900.

RAINFALL.

The table which follows, shows the amount of rain and melted snow in inches, as registered at Belchertown, Ludlow, the U. S. Armory and the City Engineer's office in this city, during the year ending November 30, 1895.

Months.	Belchertown. Inches.	Ludlow Reservoir. Inches.	U. S. Armory. Inches.	Engineer's Office. Inches.
December, 1894, . .	3 01	2.11	3.50	2.51
January, 1895, . .	3.27	2.10	3.69	3.02
February, 1895, . .	1.83	1.06	1.12	0.27
March, 1895, . . .	2 60	2.41	1.99	2.06
April, 1895, . . .	3.77	6.17	3.93	3.96
May, 1895, ...	1.70	2.05	1.91	1.63
June, 1895, ...	4.08	2.85	2.26	2.94
July, 1895, ...	4.70	6.35	4.56	4.20
August, 1895, . . .	3.58	2.90	3.70	3.30
September, 1895, .	4.07	3.75	3.11	2.89
October, 1895, . .	4.08	6.65	6.20	5.45
November, 1895, .	6.79	5.06	4.59	4.02
Totals, ...	43.48	43.46	40.56	36.25
Mean, ...	3.62	3.62+	3 38	3.02+

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MAINTENANCE.

Fifty-one leaks have been repaired this season, an average of $\frac{41}{100}$ to the mile of pipe in use. The following table shows the size and kind of pipe on which they occurred.

KIND OF PIPE.	2″	3″	4″	6″	8″	10″	12″	16″	20″	24″	30″	36″	Totals
Cement-lined, . . .	2	8	3	8	1	0	0	1	0	0	0	0	23
Cast-iron, ...	0	0	3	4	5	4	2	3	0	3	4	0	28
Totals, ...	2	8	6	12	6	4	2	4	0	3	4	0	51

RESERVOIRS.

The reservoirs are all in good condition. The quality of the water has been generally good with the exception of a few weeks in September and October, when a disagreeable odor was observed at the reservoir in Ludlow and at the faucets as the water was drawn from them in the city.

INVENTORY.

The amount of stock, tools and fixtures on hand December 1, 1895, is $13,508.34.

STATISTICS.

Annexed will be found tables showing the size and location of pipe laid, gates and hydrants set, pipe, gates and hydrants

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taken out; also location of fountains, fire reservoirs, watering tanks, fire hydrants, standpipes and main and distribution pipe.

Respectfully submitted,

J. C. HANCOCK, *Superintendent.*

SPRINGFIELD, MASS., December 30, 1895.

BOARD OF WATER COMMISSIONERS, December 30, 1895.

Read, accepted, and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

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WATER PIPE LAID AND TAKEN OUT IN 1895.

INCLUDING ALL CHANGES IN PIPE TABLES.

LOCATION.	Size.	Material.	Length in Feet.		
			High Service.	Low Service.	Totals.
Pipe Laid by Private Parties.					
Cottage avenue (changed from Stebbins lane)	1¼"	Wrought-iron.	....	....	
Cottage avenue, extension	1¼"	"	98	....	
Franklin st., east from Cass (P) (changed from low to high service, account 1894)	1¼"	"	128	....	223
Allen ave., north from Allen st.	2"	"	22		
Hillside pl., east from Richelieu st.	2"	"	....	120	
Palmer ave., east from Locust st. (changed from low service)	2"	"	830	....	
Ridgewood ter., north from Mulberry st.	2"	"	286	....	1,978
Total wrought-iron laid by private parties			1,381	120	1,501
Forest Park (from Sumner ave.)	6"	Cast-iron.	2,610	....	2,610
Forest Park (for hydrants)	4"	"	30	....	30
Total cast-iron laid by private parties			2,640	....	2,640
Pipe Laid by City.					
Park avenue, south from 6"	1¼"	Wrought-iron.	66	....	66
Hickory street, east from 3"	1½"	"	146	....	146
Chicopee Falls road, Ludlow, west from 30" main	2"	"	1,219	....	
Concord terrace	2"	"	188	....	
George street, north from Maple	2"	"	170	....	
Taylor ave., west from Willow st.	2"	"	....	197	
Warren avenue, extension	2"	"	36	....	1,810
Hickory street, east from Woodbine avenue	3"	"	810	....	810
Locust street, Main to near Mill (changed from low service)	12"	"	732	....	732
Total wrought-iron laid by city			3,367	197	3,564
Armory street, Magazine to Worthington	4"	Cast iron.	144	....	
Butler street, extension	4"	"	....	169	
Butler street, to Everett (proposed street)	4"	"	....	197	
Everett street, extension	4"	"	....	49	

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WATER PIPE LAID, ETC., IN 1895—CONTINUED.

LOCATION.	Size.	Material.	Length in Feet. High Service.	Low Service.	Totals.
HYDRANTS, sundry sts. as follows:	4"	Cast-iron.	....	....	
Alden street	....	.....	7	....	
Allen st	....	.....	23	...	
Bellevue avenue	....	.....	17	....	
Chapin and Marion streets	....	.....	14	....	
Eagle street	....	.....	8	....	
Hancock avenue	....	.....	3	....	
Kenwood avenue	....	.....	10	...	
La Verne avenue	....	.....	9	....	
Lincoln street	....	.....	6	....	
Maple dell	....	.....	9	....	
Maplewood terrace	....	.....	36	....	
Merwin street	....	.....	8	....	
Oak street, Indian Orchard	....	.....	14	....	
Rimmon avenue	....	.....	18	....	
Rutledge avenue	....	.....	....	7	
Springfield street	....	.....	3	....	
Spruceland avenue	...	.....	13	....	
Suffolk street	....	.....	9	....	
Summer street	...	.....	...	43	
Wilbraham avenue	....	.....	7	....	
Oak street, Indian Orchard, extension	4"	Cast-iron.	169	....	
Silver street east from Armory	4"	"	573	....	1,565
Acushnet avenue, extension	6"	"	....	277	
Alden street, extension to Logan	6"	"	35	....	
Allen street, extension to Plum Tree road	6"	"	1,889	....	
Allendale street (changed from Strong)	6"	"	....	....	
Birnie avenue, Douglass street to Alfred	6"	"	281	....	
Chapin and Marion streets	6"	"	1,259	...	
Cortland street, extension to State	6"	"	170	....	
Cross street at willow, east	6"	"	12	....	
Dickinson street, Oakland to Johnson	6"	"	163	....	
Eagle street	6"	"	582	....	
Gladwood avenue	6"	"	492	...	
Hancock avenue	6"	"	636	....	
Harrison avenue, at Main street account previous years	6"	"	25	....	
Homer street	6"	"	644	....	
HYDRANTS, sundry sts. as follows:	6"	"	....	....	
Birnie avenue	....	.....	13	....	
Bridge street	....	.....	....	23	
Chestnut street	....	.....	50	11	
Dwight street	....	.....	7	21	
Franklin street	...	.....	3	....	
Hancock avenue	....	.....	5	....	
Harrison avenue	....	.....	60	...	
Johnson street	....	.....	7	....	
Liberty street	....	.....	....	15	
Lyman street	....	.....	...	18	
Main street	....	.....	61	21	
Maple dell	....	.....	9	....	
Maplewood terrace	....	.....	16	....	
South street	...	.....	10	....	
Springfield street	....	.....	7	....	
State street	....	.....	48	35	
Stockbridge street	....	.....	....	10	
Sumner avenue	...	.....	9	....	

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WATER PIPE LAID, ETC., IN 1895.—CONTINUED.

LOCATION.	Size.	Material.	Length in Feet.		
			High Service.	Low Service.	Totals.
Johnson st., east from Dickinson	6"	Cast-iron	109	....	
Kenwood ave., so. from Bellevue	6"	"	23	...	
Kibbe ave., south from Summer st.	6"	"	....	38	
LaVerne ave., south from Bellevue	6"	"	26	....	
Lincoln street	6"	"	804	....	
Long Hill street, extension to Spruceland avenue	6"	"	45	...	
Maple cell	6"	"	1,013	..	
Maplewood terrace	6"	"	1,378	....	
Merwin street	6"	"	716	....	
Northampton avenue, extension	6"	"	144	....	
Oakley street, east from Main	6"	"	....	305	
Rimmon av., west from Gladwood	6"	"	1,038	....	
Rutledge ave., east from Main st.	6"	"	....	326	
South st., extension, from 8"	6"	"	411	.	
Spruceland avenue, extension to Long Hill street	6"	"	625	....	
Suffolk street, south from Wilbraham road	6"	"	1,385	....	
Van Horn reservoirs, supply pipe	"	"	242	..	
Warriner avenue, east from Locust st. (changed from low service)	6"	"	360	....	
Wilbraham avenue, extension	6"	"	504	....	16,396
Armory st., no. from Worthington	8"	"	702	....	
Bay street, extension	8"	"	265	....	
Bellevue avenue	8"	"	1,728	....	
Chestnut st., Harrison av. so. to 6"	8"	"	644	....	
Chestnut st., Eagle to Springfield	8"	"	613	....	
Pynchon st., extension	8"	"	59	....	
South street, south from Long Hill	8"	"	1,167	....	
Springfield st., east from Chestnut	8"	"	414	....	
Springfield st., west from Armory	8"	"	240	....	
Summer st., Autumn to Kibbe ave.	8"	"	....	1,221	
Sumner ave., extension to Forest Park	8"	"	216	....	
Worthington street, at Main (account previous years)	8"	"	12	....	
Worthington st., west from Main	8"	"	89	....	7,370
Armory st., extens'n to Springfield	12"	"	2,584	....	
Chestnut st., Worthington st. to Harrison avenue	12"	"	961	....	
Harrison avenue	12"	"	895	....	
Main street, Loring to Locust	12"	"	1,778	....	6,158
Total cast-iron laid by city			28,703	2,786	31,489
Total wrought-iron laid by city (forward)			3,367	197	3,564
Total cast-iron laid by private parties (forward)			2,640	....	2,640
Total wrought-iron laid by private parties (forward)			1,381	120	1,501
Total amount added, 1895			36,091	3,103	39,194

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WATER PIPE LAID, ETC., IN 1895.—CONCLUDED.

LOCATION.	Size.	Material.	Length in Feet.		
			High Service	Low Service.	Totals.
Total amt. added, 1895 (forward).	....	.....	36,091	3,103	39,194
Pipe Taken Out or Abandoned					
Taylor avenue, west from Willow street	1"	Wrought-iron.	....	200	200
Armory street, north from Magazine (P) (service only)	1¼"	"	116	..	
Franklin street, east from Cass (P) (changed from low to high service—account 1894)	1¼"	"	....	128	
Stebbins lane (P) changed to Cottage avenue	1¼"	"	....	....	
Wilbraham avenue, south from 6" (P)	1¼"	"	62	....	300
Chestnut street, south from Edwards (P)—(483 feet taken out; —152 feet abandoned from tables =service, only, for No. 81)	2"		635	....	
Lincoln street	2"	"	723	....	
Palmer avenue, east from Locust street (P) (changed to high service)	2"	"	....	850	2,208
Summer street, Autumn to Kibbe avenue	3"	Cement-lined.	....	1,221	1,221
Cross street, at Willow	4"	Cast iron.	12	....	
Pynchon street, west from 8 inch (P)	4"	"	31	....	
Whitney avenue, west from Water street	4"	"	....	24	67
Kibbe avenue, south from Summer street	6"	Cement lined.	....	38	
Strong street (changed to Allendale)	6"	Cast iron.	....	....	
Warriner avenue, east from Locust street,—(changed to high service)	6"	"	....	360	398
Armory street (old high service supply for Van Horn reservoirs)	8"	"	50	....	50
Locust street, Main to near Mill (changed to high service)	12"	Cement-lined.	....	732	732
Total amount taken out or abandoned, 1895			1,629	3,553	5,182
Net addition to tables, 1895			34,462	—450	34,012

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GATES SET IN 1895.

TWO-INCH.

Allen avenue, at Allen street (private),	High,	1	
Chestnut street, opposite Christ church (flush)	High,	1	
Chicopee Falls road, Ludlow, at 30 inch main,	High,	1	
Clifford street, near No. 33 (flush)	High,	1	
Concord terrace, at Wilbraham road,	High,	1	
Eastern avenue, at Union street (flush)	High,	1	
Fulton street, near Plainfield (flush)	Low,	1	
George street, near Maple (flush)	High,	1	
George street, at Maple,	High,	1	
Harrison avenue, at No. 82 (flush)	High,	1	
Hillside place, at Richelieu street (private)	Low,	1	
Ingersoll grove, at No. 123 (flush)	High,	1	
Maple street, top of Ames hill (flush)	High,	1	
McKnight street, near Girard avenue (flush)	High,	1	
Myrtle street, at Berkshire, I. O., (flush),	High,	1	
North street, near Alexander (flush),	Low,	1	
Ridgewood terrace, at Mulberry street (private),	High,	1	
Spruce street, for Central street schoolhouse,	High,	1	
St. James avenue, at Ripley (flush),	High,	1	
Taylor avenue, at Willow street,	Low,	1	
Tenth street, near Chestnut (flush),	Low,	1	
Wilbraham avenue, opposite Beverley st. (flush),	High,	1	
		—	22

THREE-INCH.

Hampden street, at Main (flush),	High,	1	
Lincoln street, (flush),	High,	1	
Main street, for Forbes & Wallace (private),	High,	1	
Margaret street, near Main (flush),	Low,	1	
State street, near Main, west (flush),	High,	1	
Walnut street, near Florence (flush),	High,	1	
Walnut street, opposite Manhattan (flush),	High,	1	
Wilcox street, near Main (flush),	Low,	1	
		—	8

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FOUR-INCH.

Alden street, at Logan (flush),	High,	1
Alexander street, at No. 82 (flush),	Low,	1
Armory street, at Magazine,	High,	1
Benton street, near Chapel (flush),	High,	1
Berkshire street, I. O. opposite Cong. church (flush),	High,	1
Birnie avenue, for U. S. Spring Bed Co. (private).	High,	1
Butler street, opposite No. 138,	Low,	1
Central street, for schoolhouse (private),	High,	1
Emery street, for No. 138-140 Main street, (private),	High,	1
Hampden street, near Main (for hydrant),	Low,	1
Hancock avenue, at Spruce street,	High,	1
Hancock street, S. E. corner State (for hydrant),	High,	1
Harrison avenue, for No. 37 (private),	High,	1
Hickory street, at Woodbine avenue,	High,	1
Hickory street, for Y. M. C. A. Training school (private),	High,	1
Howard street, opposite No. 110 (flush),	Low,	1
Lincoln street, at Federal,	High,	1
Lyman street, for Springfield Steam Power Co. (private),	High,	1
Main street, opposite Gardner (for hydrant),	Low,	1
Oak street, near Tyler (flush),	High,	1
Pynchon street, for Forbes & Wallace (private),	High,	1
Sanford street, for A. C. Hunt & Co. (private),	High,	1
Silver street, at Armory,	High,	1
State street at City Library (for hydrant),	High,	1
State street, for P. H. Potter's mill (private),	High,	1
Truxton street, at Monmouth (flush),	High,	1
Vernon street, for Forbes & Wallace (private),	Low,	1
Water street, N.E. corner Gardner (for hydrant),	Low,	1
White street, at No. 202 (flush),	High,	1
Wilbraham avenue, for Hutchins Narrow Fabric Co. (private),	High,	1
Worthington street, for No. 97 (private),	High,	1
Worthington street, for No. 309 Main (private),	High,	1
		— 32

SIX-INCH.

Allen street, near N. E. R. R.,	High,	1
Armory street, for Van Horn reservoirs,	High,	1
Bay street, for Oak Grove cemetery (private),	High,	1

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Bridge street, at Barnes (for hydrant),	Low,	1
Chapin street, at State,	High,	1
Chestnut street, at City hospital (private),	Low,	1
Chestnut street, N. W. corner Harrison avenue (for hydrant),	High,	1
Chestnut street, opposite Mattoon (for hydrant),	High,	1
Chestnut street, opposite Pearl, (for hydrant),	High,	1
Chestnut street, N. W. corner Bridge (for hydrant),	High,	1
Chestnut street, S. W. corner Worthington (for hydrant),	High,	1
Cortland street, at State,	High,	1
Cross street, at Willow,	High,	1
Dickinson street, at Oakland,	High,	1
Dwight street, at Bridge (for hydrant),	Low,	1
Dwight street, at New (for hydrant),	Low,	1
Dwight street, at No. 109 (for hydrant),	High,	1
Eagle street, at Chestnut (for hydrant),	High,	1
Franklin street, at Main (for hydrant),	High,	1
Gladwood avenue, at Springfield street,	High,	1
Hancock avenue, at Hancock street,	High,	1
Harrison avenue, N. E. corner Main (for hydrant),	High,	1
Harrison avenue, opposite Market street (for hydrant),	High,	1
Harrison avenue, at No 37 (for hydrant),	High,	1
Harrison avenue, at No 44, (for hydrant),	High,	1
Harrison avenue, N. W. corner Dwight street (for hydrant),	High,	1
Homer street, at State,	High,	1
Homer street, at Wilbraham road,	High,	1
Kenwood avenue, at Bellevue,	High,	1
LaVerne avenue, at Bellevue,	High,	1
Liberty street, at Main (for hydrant),	Low,	1
Main street, at No. 360 (for hydrant),	Low,	1
Main street, at No. 388 (for hydrant),	Low,	1
Main street at No. 415 (for hydrant),	High,	1
Main street, at No. 445 (for hydrant),	High,	1
Maple dell, at Burr street,	High,	1
Maple dell, at State street,	High,	1
Maplewood terrace, at Fort Pleasant avenue,	High,	1
Maplewood terrace, at Park avenue,	High,	1
Marion street, at McKnight, south,	High,	1
Merwin street, at Chestnut,	High,	1
Mill street, for Alden mill (private),	High,	1
Oakley street, at Main,	Low,	1

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Rimmon avenue, at Gladwood,	High,	1	
Rutledge avenue, at Main street,	Low,	1	
Spruceland avenue, at Long Hill street,	High,	1	
State street, at Water (for hydrant),	Low,	1	
State street, at No. 52 (for hydrant),	High,	1	
State street, at Cathedral (for hydrant),	High,	1	
State street, at Woodworth avenue (for hydrant),	High,	1	
State street, at N. E. R. R. (for hydrant),	High,	1	
Suffolk street, at Wilbraham road,	High,	1	
Sumner avenue, at Forest park (private),	High,	1	
Van Horn Reservoirs, at end of high service supply pipe,	High,	1	
Wilbraham road, for Geo. A. Schastey Co. (private),	High,	1	
Willow street, at No. 57 (private),	High,	1	
		—	56

EIGHT-INCH.

Armory street, at Van Horn reservoirs, north,	High,	1	
Bellevue avenue, at Belmont,	High,	1	
Chestnut street, at Harrison avenue, south,	High,	1	
Chestnut street, at Springfield,	High,	1	
Eastern avenue, at State street,	High,	1	
Pynchon street, opposite Forbes & Wallace's,	High,	1	
South street, at Long Hill,	High,	1	
Springfield street, at Armory,	High,	1	
Summer street, at Autumn,	Low,	1	
Summer street, at Kibbe avenue,	Low,	1	
		—	10

TEN-INCH.

Worthington street, at Chestnut, west,	High,	1	
Worthington street, at Chestnut, east,	High,	1	
		—	2

TWELVE-INCH.

Chestnut street, at Harrison avenue,	High,	1	
Chestnut street, at Worthington, south,	High,	1	
Chestnut street, at Worthington, north,	High,	1	
Harrison avenue, at Main street,	High,	1	
Main street, at Loring,	High,	1	
Main street, at Locust,	High,	1	
		—	6
Total number of gates added in 1895,			136

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"LUDLOW MAIN NO. 2" GATES.

The following is a complete list (in order of location) of gates connected with "Ludlow Main No. 2," a portion, only, of which were previously listed, in the report for 1893.

Published in report for 1893, *as follows:*

Carew street, at Main, 20″,	1	
North street, at Carew, N., 6″,	1	
Carew street, at Chestnut, W., 20″,	1	
Chestnut street, at Carew, N., 8″,	1	
Chestnut street, at Carew, S., 8″,	1	
Massasoit street, at Carew, 6″,	1	
Carew street, east of Shattuck's house, No. 348, 24″,	1	
Armory street, at Carew, N., 12″,	1	
Armory street, at Carew, S., 12″,	1	
Liberty street, at Carew, N., 8″,	1	
Liberty street, at Carew, S., 8″,	1	
Carew street, at Liberty, E., 30″,	1	
	—	12
Not before published, as follows:—		
St. James avenue, at Carew Street, S., 24″,	1	
St. James avenue, at Carew street, N., 12″,	1	
One mile east of St. James avenue, 30″,	1	
Drain gate, at Poor brook, 8″,	1	
Just south of Chicopee river, 30″,	1	
Drain gate, just north of Chicopee river, 8″,	1	
North of Chicopee river, 30″,	1	
At "Sullivan's," 30″,	1	
Drain gate at West pond, 8″,	1	
Drain gate at East pond, 8″,	1	
Drain gate at Higher brook, 8″,	1	
At crossing of old main, W., 30″,	1	
In old main, at crossing, N., 24″,	1	
In old main, at crossing, S., 24″,	1	
At crossing of old main, E., 36″,	1	
At Stephen C. Jones', 36″,	1	
Drain gate, 1,000 feet west of Ludlow reservoir, 12″,	1	
At Ludlow reservoir, 30″,	1	
	—	18
Total,		30

☞ In addition to the above, 15 blow-off gates (or air valves) were placed in the new main at various points between St. James avenue and the Ludlow reservoir, which have not previously been mentioned in the annual reports.

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GATES TAKEN OUT IN 1895.

(INCLUDING THOSE ABANDONED.)

ONE AND ONE-QUARTER INCH.

Chestnut street, opposite Christ church (flush),	High,	1	
Eastern avenue, at Union street (flush),	High,	1	
Hampden street, at Main (flush),	High,	1	
Howard street, near railroad (flush),	Low,	1	
Lincoln street, at Federal,	High,	1	
Maple street, top of Ames hill, (flush),	High,	1	
Margaret street, near Main (flush),	Low,	1	
St. James avenue, near Ripley (flush),	High,	1	
State street, just west of Main (flush),	High,	1	
Wilcox street, at Main (flush),	Low,	1	
		—	10

TWO-INCH.

Lincoln street (flush),	High,	1	
Tenth street (flush),	Low,	1	
		—	2

FOUR-INCH.

Cass street, at Liberty (for hydrant),	Low,	1	
Cross street, at Willow,	High,	1	
Dwight street, for No. 181—187, (private),	Low,	1	
Harrison avenue, for No. 37 (private),	High,	1	
Mill street, for "Alden's mill" (private),	High,	1	
		—	5

SIX-INCH.

Summer street, at Kibbe avenue,	Low,	1	
		—	1

EIGHT-INCH.

Armory street, at Van Horn reservoirs,	High,	1	
Eastern avenue, at State street,	High,	1	
		—	2

TWELVE-INCH.

Locust street, at Mill,	Low,	1*	
		—	1
Total,			2

* (A pressure regulator just south of this gate was also taken out).

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Number of gates December 1, 1894, . .		1,307
Number of gates added in 1895, . . .	136	
Number of gates taken out in 1895, . .	21	
Net addition in 1895, . . .		115
Number of gates on "Ludlow Main No. 2", not before published, as per list, . .		18
Total number of gates December 1, 1895,		1,440

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FIRE HYDRANTS SET IN 1895.

HIGH SERVICE.

Alden street, N. W. corner Logan,	1
Allen street, north side, just E. of N. E. R. R.,	1
Allen street, north side, midway of next above and below,	1
Allen street, north side, N. W. corner Plumtree road,	1
Bellevue avenue, S. W. corner Dickinson street,	1
Birnie avenue, S. E. corner Alfred street,	1
Chapin street, east side, midway,	1
Chestnut street, opposite No. 49,	1
Chestnut street, opposite Edwards,	1
Chestnut street, N. W. corner Harrison avenue,	1
Chestnut street, opposite Mattoon,	1
Chestnut street, opposite Pearl,	1
Chestnut street, N. W. corner Bridge,	1
Chestnut street, S. W. corner Worthington,	1
Dwight street, east side, at No. 109,	1
Eagle street, N. W. corner Chestnut,	1
Elm street, N. W. corner Main,	1
Franklin street, S. E. corner Main,	1
Hancock avenue, north side, midway,	1
Hancock avenue, N. E. corner Spruce street,	1
Harrison avenue, N. E. corner Main street,	1
Harrison avenue, opposite Market street,	1
Harrison avenue, at No. 37,	1
Harrison avenue, at No. 44,	1
Harrison avenue, N. W. corner Dwight street,	1
Johnson street, north side, end of pipe,	1
Kenwood avenue, S. E. corner Bellevue,	1
La Verne avenue, S. E. corner Bellevue,	1
Lincoln street, N. W. corner Magazine,	1
Main street, east side, at No. 415,	1
Main street, east side, at No. 445,	1
Main street, S. E. corner Adams,	1
Main street, east side, opposite Lombard,	1
Main street, east side, at No. 739,	1
Main street, east side, opposite Gardner,	1
Main street, N. E. corner Marble,	1
Main street, east side, opposite Broad,	1

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Main street, N. E. corner Rutledge avenue,	1	
Main street, N. E. corner Acushnet avenue,	1	
Maple dell, N. E. corner State street,	1	
Maple dell, S. E. corner Burr street,	1	
Maplewood terrace, N. E. corner Fort Pleasant avenue,	1	
Maplewood terrace, north side, midway,	1	
Maplewood terrace, N. W. corner Park avenue,	1	
Marion street, east side, south end,	1	
Merwin street, N. W. corner Chestnut,	1	
Oak street, I. O., end of pipe,	1	
Pine street, N. W. corner Maple,	1	
Rimmon avenue, S. W. corner Gladwood,	1	
Rimmon avenue, south side, end of pipe,	1	
Sanford street, N. E. corner Main,	1	
South street, east side, at Long hill,	1	
South street, east side, at south end bridge,	1	
Springfield street, S. W. corner Armory,	1	
Springfield street, south side, opposite city hospital,	1	
Spruceland avenue, at Smith's,	1	
State street, N. E. corner Water,	1	
State street, north side, at No. 52,	1	
State street, at cathedral,	1	
State street, opposite Woodworth avenue,	1	
State street, north side, at N. E. R. R.,	1	
Suffolk street, east side, end of pipe,	1	
Sumner avenue, south side, at Forest park,	1	
Wilbraham avenue, east side, end of pipe,	1	
	—	64

LOW SERVICE.

Bliss street, S. W. corner Main,	1
Bridge street, S. E. corner Barnes,	1
Central street, north side, at No. 68,	1
Chestnut street, S. W. corner Taylor,	1
Dwight street, S. W. corner Bridge,	1
Dwight street, S. W. corner New,	1
Hampden street, S. W. corner Main,	1
Howard street, at No. 43,	1
Liberty street, S. E. corner Main,	1
Lyman street, S. E. corner Main,	1
Main street, at No. 360,	1
Main street, at No. 388,	1
Railroad row, corner of Main street (account of 1894),	1
Rutledge avenue, north side, midway,	1
State street, south side, at No. 71,	1

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State street, S. W. corner Willow,	1	
State street, south side, at Unity church,	1	
State street, south side, at High school,	1	
Stockbridge street, S. W. corner Willow,	1	
Summer street, north side, opposite Autumn,	1	
Summer street, south side, at No. 103,	1	
Summer street, south side, at No. 147,	1	
	—	22
Total number city hydrants set in 1895,		86

HIGH SERVICE—PRIVATE.

In Forest park,	3	
In yard of Springfield Webbing Co., Mill street,	1	
	—	4

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FIRE HYDRANTS TAKEN OUT IN 1895.

HIGH SERVICE.

Elm street, N. W. corner Main,	1	
Pine street, N. W. corner Maple,	1	
Sanford street, N. E. corner Main.	1	
State street, N. E. corner Water,	1	
	—	4

LOW SERVICE.

Bliss street, S. W. corner Main,	1	
Cass street, N. W. corner Liberty,	1	
Central street, north side, opposite No. 63,	1	
Hampden street, S. W. corner Main,	1	
Howard street, south side, at No. 43,	1	
Summer street, south side, at No. 121,	1	
	—	6
Total number city hydrants taken out in 1895,		10

Number of city hydrants as per report, December 1, 1894,		717
Number of city hydrants set in 1895,	86	
Number of city hydrants taken out in 1895,	10	
Net addition, 1895,		76
Total number of city hydrants, December 1, 1895,		793
High service,	554	
Low service,	239	

Number of private hydrants, December 1, 1894,	82	
Number of private hydrants set in 1895,	4	
Total number of private hydrants, Dec. 1, 1895,		86

Total number of hydrants connected with the works, December 1, 1895,	879

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STANDPIPES

(FOR STREET SPRINKLING)

CONNECTED WITH THE WORKS.

Allen street, at Mill,	High,	1
Amherst street, at Princeton,	High,	1
Armory street, north of Grant,	High,	1
Armory street, at Liberty,	High,	1
Bay street, near Buckingham,	High,	1
Bay street, at Marion,	High,	1
Byers street, at Pearl,	High,	1
Carew street, at Brickyard,	High,	1
Central street, at Spruce,	High,	1
Chestnut street, at Montmorenci,	Low,	1
Chestnut street, at Edwards,	High,	1
Chestnut street, at Patton,	Low,	1
Chestnut street, at Franklin,	Low,	1
Cypress street, at Main,	High,	1
Dwight street, at Sanford,	High,	1
Dwight street, at Hillman,	High,	1
Dwight street, at Taylor,	High,	1
Eastern avenue, at Alden street,	High,	1
Eastern avenue, at King street,	High,	1
Fulton street, at Auburn,	Low,	1
Hancock street, at Alden,	High,	1
Hancock street, near State,	High,	1
Howard street, near Water,	Low,	1
King street, at Hancock,	High,	1
Liberty street, nearly opposite No. 385,	High,	1
Linden street, at Cass,	Low,	1
Loring street, at Water,	High,	1
Magazine street, at Worthington,	High,	1
Main street, at Tenth,	High,	1
Main street, at Loring,	High,	1
Main street, at Locust,	High,	1
Maple street, at Central,	High,	1
Mill street, at Locust,	High,	1
Monroe street, at Eastern avenue,	High,	1
Mulberry street, east of School,	High,	1
North street, at Osgood,	Low,	1
North Main street, at Arch,	High,	1
North Main street, at Carew,	High,	1

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North Main street, south of Grace,	Low,	1
Oak street, at Walnut,	High,	1
Pine street, at Mill,	High,	1
Pine street, at Maple,	High,	1
Pine street, at Central,	High,	1
Pine street, near Walnut,	High,	1
Plainfield street, at John,	Low,	1
Quincy street, at Hancock,	High,	1
Spring street, at Worthington,	High,	1
South street, near Mill river,	High,	1
State street, at Byers,	High,	1
State street, at Federal,	High,	1
State street, near Maple dell.	High,	1
State street, at Willard avenue,	High,	1
St. James avenue, near Bay street,	High,	1
St. James avenue, north of Princeton street,	High,	1
Sumner avenue, at Forest park,	High,	1
Sumner avenue, at Jackson street,	High,	1
Union street, at Mulberry,	High,	1
Walnut street, at Manhattan,	High,	1
Walnut street, at Queen,	High,	1
Water street, at Worthington,	Low,	1
Water street, at Court,	Low,	1
Wilbraham road, at engine house,	High,	1
Willow street, at Park,	High,	1
Worthington street, near Autumn,	High,	1
Worthington street, at Kibbe avenue,	High,	1
Worthington street, at Florida,	High,	1
Worthington street, at Thompson park,	High,	1
Total,		67

WATERING TANKS AND DRINKING FOUNTAINS

CONNECTED WITH THE WORKS.

Court street, at Court Square,	1
Dwight street, at Worthington,	1
Liberty street, at Armory,	1
Main street, at Mill,	1
Main street, Indian Orchard, at Oak,	1

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Mill street, at Watershops,	1	
North Main street, opposite Bradford,	1	
State street, at Federal,	1	
State street, at Winchester park,	1	
State street, at Indian Orchard road,—opposite Catholic cemetery,	1	
Water street, at Court,	1	
Total,		11

PUBLIC PARKS AND FOUNTAINS

CONNECTED WITH THE WORKS.

Benton park, State street, between Federal and Magazine,	1	
Calhoun park, Chestnut street, between Calhoun and Jefferson avenue (no fountain),	1	
Clarendon park, Clarendon street, at Bay,	1	
Dartmouth park, Dartmouth street, at Bay,	1	
Forest park, Sumner avenue, (no fountain),	1	
Kibbe park, Federal street, at Armory,	1	
McKnight park, Buckingham street, at Bay,	1	
Mill street park, Mill street, at Pine,	1	
Stearns park, between Bridge and Worthington streets,	1	
Thompson park, St. James avenue, at Worthington street,	1	
Winchester park, State street, at Wilbraham road,	1	
Total,		11

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FIRE RESERVOIRS

CONNECTED WITH THE WORKS.

Bridge street, at Main,	1	
Central street, opposite Beech,	1	
Howard street, at Main,	1	
Lyman street, at Dwight,	1	
Main street, at Court Square,	1	
Main street, at State,	1	
Maple street, at Central,	1	
Maple street, near Cross,	1	
Pine street, at Central,	1	
Pynchon street, near Water,	1	
School street, at High,	1	
State street, near Elliott,	1	
Walnut street, at Hancock,	1	
Water street, opposite Walker,	1	
Total,		14

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FIRE HYDRANTS

CONNECTED WITH THE WORKS.

No.	High or Low.	Location.	Make.
1.	H.	N. W. corner No. Main and Bradford streets.	Chapman
2.	H.	S. E. corner No. Main and Church streets.	Chapman
3.	L.	S. E. corner No. Main and Morgan streets.	Brown
4.	H	N. E. corner No. Main and Morgan streets.	Chapman
5.	H.	S. E. corner No. Main and Osgood streets.	Chapman
6.	L.	N. E. corner No. Main and Bancroft streets.	Chapman
7.	H.	N. E. corner No. Main and Bancroft streets.	Chapman
8.	L	Arch street, north side, front of No. 36.	Chapman
9.	H.	N. W. corner No. Main and Arch streets.	Perkins
10.	L.	N. E. corner No. Main street and Jefferson avenue.	Chapman
11.	H.	S. E. corner No. Main and Calhoun streets.	Chapman
12.	L.	N. E. corner No. Main and Calhoun streets.	Chapman
13.	L.	N. W. corner No. Main and Hooker streets.	Chapman
14.	H.	N. E. corner No. Main and Grove streets.	Chapman
15.	H.	N. W. corner No. Main and Walter streets.	Chapman
16.	H.	S. W. corner No. Main and Grace streets.	Chapman
17.	L.	Birnie avenue, at end of Grace street.	Ayers
18.	H.	S. E. corner Birnie avenue and Grace street.	Chapman
19.	L.	No. Main street, opposite Wason avenue.	Chapman
20.	L.	S. E. corner Wason and Fisk avenues.	Matthews
21.	H.	S. W. corner Wason and Fisk avenues.	Chapman
22.	L.	Wason avenue, north side, opposite No. 31.	Chapman
23.	L.	S. E. corner Plainfield street and Wason avenue.	Chapman
24.	L.	N. E. corner Plainfield street and Hyde avenue.	Chapman
25.	L.	N. E. corner Plainfield street and Demond avenue.	Chapman
26.	H.	S. W. corner Fisk and Hyde avenues.	Chapman
27.	H.	S. W. corner Fisk and Demond avenues.	Chapman
28.	H.	Fisk avenue, east end of Holyoke Card and Paper Co's. shop.	Chapman
29.	L.	N. W. corner Fisk and Worcester avenues.	Chapman
30.	L.	Worcester avenue, north side, midway.	Chapman
31.	L.	N. E. corner Plainfield street and Worcester avenue.	Chapman
32.	L.	N. W. corner Fisk and Talcott avenues.	Chapman
33.	H.	S. W. corner Fisk and Worcester avenues.	Chapman
34.	L.	N. W. corner Plainfield and Washburn streets.	Chapman

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No.	High or Low.	Location.	Make.
35.	L.	Washburn street, north side, midway.	Chapman
36.	L.	Washburn street, north side, at end of street.	Chapman
37.	L.	Lowell street, north side, at end of street.	Chapman
38	L.	Lowell street, north side, midway.	Chapman
39.	L.	N. W. corner Plainfield and Lowell streets.	Chapman
40.	L.	Plainfield street, north side, at Fulton.	Chapman
41.	L.	Plainfield street, west side, near Reynolds.	Chapman
42.	L.	S. W. corner Plainfield and John streets.	Chapman
43.	L.	N. E. corner Fulton and John streets.	Chapman
44.	L.	N. E. corner Fulton and Bradford streets.	Chapman
45.	L.	Bradford street, north side, midway.	Chapman
46.	L.	N. E. corner Fulton and Sargeant streets.	Chapman
47.	H.	N. W. corner Main and Sargeant streets.	Chapman
48.	L.	Seventh street, north side, midway.	Perkins
49.	H.	S. W. corner Main and Seventh streets.	Chapman
50	H.	S. W. corner Main and Auburn streets.	Chapman
51.	H.	N. W. corner Main and Holyoke streets.	Chapman
52.	H.	N. W. corner Main and Vine streets.	Chapman
53.	H.	N. W. corner Main and Clinton streets.	Chapman
54.	H.	S. W. corner Main and Emery streets.	Chapman
55.	H.	Emery street, north side, opposite Gray's avenue.	Chapman
56.	H.	N. E. corner Emery and Boylston streets.	Chapman
57.	H.	N. E. corner Fulton and Emery streets.	Chapman
58.	L.	N. E. corner Fulton and Cypress streets.	Perkins
59.	H.	N. E. corner Fulton and Cypress streets.	Chapman
60.	H.	N. E. corner Cypress and Boylston streets.	Chapman
61.	L.	Boylston street, east side, between Cypress and Emery streets.	Chapman
62.	H.	N. E. corner Gray's avenue and Cypress street.	Chapman
63.	L.	Gray's avenue, west side, midway.	Chapman
64.	H	N. W. corner Cypress street and Cypress avenue.	Chapman
65.	L.	N. W. corner Main and Cypress streets.	Chapman
66.	H.	S. W. corner Main and Cypress streets.	Chapman
67.	L.	S. E. corner Water street and Railroad row.	Matthews
68.	H.	S. E corner Water and Hampden streets.	Perkins
69.	H.	Hampden street, north side, midway.	Perkins
70.	L	S. W. corner Main and Hampden streets. 6″ S. con.	Chapman
71.	L.	Fort street, south side, midway.	Chapman
72.	L.	S. E. corner Water and Fort streets.	Chapman
73.	L	S. W. corner Main and Worthington streets.	Chapman
74.	L.	N. W. corner Main and Bridge streets.	Chapman
75.	H.	Bridge street, north side, opposite Bond place.	Chapman
76.	H.	Bridge street, south side, front of No. 43.	Matthews
77.	L.	N. E. corner Water and Bridge streets.	Chapman
78.	H.	N. W. corner Water and Bridge streets.	Chapman

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No.	High or Low.	Location.	Make.
79.	L.	—Wight avenue, north side, at end of avenue.	Chapman
80.	L.	—N. E. corner Water and Vernon streets.	Chapman
81.	L.	—Vernon street, north side, midway.	Chapman
82.	H.	—N. W. corner Main and Vernon streets.	Matthews
83.	L.	—S. W. corner Main and Vernon streets.	Chapman
84.	H.	—N. W. corner Main and Pynchon streets.	Matthews
85.	L.	—S. W. corner Main and Pynchon streets.	Chapman
86.	H.	—Pynchon street, south side, front of park.	Chapman
87.	H.	—City Hall avenue, west side, midway.	Chapman
88.	L.	—N. E. corner Water and Pynchon streets.	Chapman
89.	L.	—Court street, south side, near Water.	Chapman
90.	L.	—Court street, south side, midway.	Chapman
91.	H.	—Court street, south side, opposite City Hall, 6″.	Perkins
92.	L.	—N. W. corner Main and Court streets.	Chapman
93.	H.	—S. W. corner Main and Court streets.	Chapman
94.	H.	—N. W. corner Main and Elm streets, 6″.	Perkins
95.	L.	—S. W. corner Main and Elm streets.	Chapman
96.	L.	—Elm street, south side, midway.	Chapman
97.	L.	—N. E. corner Water and Elm streets.	Chapman
98.	H.	—N. E. corner Water and State streets, 6″.	Perkins
99.	L.	—S. E. corner Water and State streets.	Chapman
100.	H.	—State street, north side, near Court House.	Chapman
101.	L.	—S. W. corner Main and State streets.	Chapman
102.	H.	—N. W. corner Main and Bliss streets.	Chapman
103.	L.	—S. W. corner Main and Bliss streets, 6″ S. con.	Chapman
104.	L.	—Bliss street, south side, front of No. 29.	Chapman
105.	L.	—Bliss street, south side, front of Nos. 57–59.	Chapman
106.	L.	—N. E. corner Water and Bliss streets.	Chapman
107.	L.	—Howard street, south side, near R. R.	Perkins
108.	L.	—N. W. corner Water and Howard streets.	Chapman
109.	L.	—Howard street, south side, front of No. 43.	Perkins
110.	H.	—N. W. corner Main and Howard streets.	Chapman
111.	L.	—S. W. corner Main and Howard streets.	Chapman
112.	L.	—S. W. corner Main and Union streets.	Chapman
113.	L.	—Union street, south side, midway between Main and Water streets.	Chapman
114.	L.	—S. E. corner Water and Union streets.	Chapman
115.	L.	—Wilcox street, north side, near R. R.	Chapman
116.	L.	—S. E. corner Water and Wilcox streets.	Chapman
117.	L.	—Wilcox street, south side, front of No. 47.	Chapman
118.	H.	—N. W. corner Main and Wilcox streets.	Chapman
119.	L.	—S. W. corner Main and Wilcox streets.	Chapman
120.	L.	—S. W. corner Main and William streets.	Chapman
121.	L.	—William street, north side, front of No. 120.	Chapman
122.	L.	—William street, north side, opposite No. 83.	Chapman

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No.	High or Low.	Location.	Make.
123.	L.	N. W. corner Water and William streets.	Perkins
124.	L.	William street, north side, near R. R.	Perkins
125.	L.	Margaret street, north side, near R. R.	Chapman
126.	L.	N. E. corner Water and Margaret streets.	Chapman
127.	L.	Margaret street, south side, opposite Nos. 42–44.	Chapman
128.	H.	N. W. corner Main and Margaret streets.	Chapman
129.	L.	S. W. corner Main and Margaret streets.	Chapman
130.	L.	S. W. corner Main and Fremont streets.	Chapman
131.	L.	Fremont street, south side, front of No. 41.	Chapman
132.	L.	N. E. corner Water and Fremont streets.	Chapman
133.	L.	Whitney avenue, north side, end of avenue.	Chapman
134.	H.	Loring street, north side, front of No. 34.	Chapman
135.	H.	Water street, west side, near Loring.	Chapman
136.	H.	N. W. corner Main and Loring streets.	Chapman
137.	L.	Lombard street, north side, opposite No. 25.	Chapman
138.	H.	S. W. corner Water and Walker streets.	Chapman
139.	H.	Walker street, south side, near Walker's shop.	Chapman
140.	L.	Walker street, north side, midway.	Matthews
141.	H.	Walker street, south side, near R. R.	Chapman
142.	L.	N. E. corner Water and Gardner streets.	Perkins
143.	H.	Gardner street, south side, opposite Gardner avenue.	Chapman
144.	L.	Gardner street, north side, front of No. 96.	Chapman
145.	H.	S. E. corner Gardner and Hanover streets.	Chapman
146.	L.	N. E. corner Hanover and Norwood streets.	Perkins
147.	L.	Norwood street, south side, midway.	Chapman
148.	L.	N. W. corner Main and Norwood streets.	Chapman
149.	L.	S. W. corner Main and Broad streets.	Matthews
150.	L.	S. E. corner Hanover and Broad streets.	Matthews
151.	H.	Hanover street, east side, near Broad.	Chapman
152.	L.	Elmwood street, north side, near Barney & Berry's shop.	Chapman
153.	H.	Union street, north side, midway.	Chapman
154.	H.	N. W. corner Hanover and York streets.	Chapman
155.	L.	York street, north side, front of schoolhouse.	Chapman
156.	L.	N. W. corner Main and York streets.	Perkins
157.	L.	Main street, east side, at Locust.	Matthews
158.	H.	Main street, east side, opposite No. 962.	Matthews
159.	H.	South street, east side, opposite No. 5.	Chapman
160.	H.	S. E. corner South and Long Hill streets.	Chapman
161.	H.	Long Hill street, east side, near brick yard.	Chapman
162.	H.	Long Hill street, east side, north of Sumner avenue.	Chapman
163.	H.	N. E. corner Long Hill street and Sumner avenue.	Chapman
164.	H.	Long Hill street, east side, near schoolhouse.	Chapman

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No.	High or Low.	Location.	Make.
165.	H.	N. W. corner Sumner and Fort Pleasant avenues.	Chapman
166.	H.	Belmont avenue, west side, at Fort Pleasant avenue.	Chapman
167.	H.	Mill street, south side, midway between Locust and Main streets.	Matthews
168.	H.	Mill street, north side, opposite Howard's waste mill.	Perkins
169.	H.	Pine street, north side, at Mill.	Perkins
170.	H.	Belmont avenue, east side, opposite No. 134.	Chapman
171.	H.	Belmont avenue, east side, north of Euclid.	Chapman
172.	H.	N. E. corner Belmont avenue and Keith street.	Chapman
173.	H.	Keith street, north side, front of No. 51.	Chapman
174.	H.	N. W. corner Keith and Dickinson streets.	Chapman
175.	H.	N. E. corner Belmont avenue and Hall street.	Chapman
176.	H.	Forest street, east side.	Chapman
177.	L.	Marble street, north side, midway, 6″,	Chapman
178.	L.	Main street, east side, opposite Gardner.	Perkins
179.	L.	Adams street, south side, midway.	Chapman
180.	L.	Ashmun street, east side, opposite Adams.	Chapman
181.	L.	Central street, north side, opposite No. 63, 6″ S. con.	Chapman
182.	H.	N. E. corner Main and Central streets.	Chapman
183.	H.	N E. corner Main and Morris streets.	Chapman
184.	L.	Morris street, east end, at angle.	Chapman
185.	L.	Winthrop street, north side, midway.	Chapman
186.	H.	N. E. corner Main and Winthrop streets.	Chapman
187.	H.	N. E. corner Main and William streets.	Chapman
188.	H.	William street, south side, midway between Main and Dale streets.	Chapman
189.	L.	N. W. corner William and Dale streets.	Chapman
190.	H.	N. E. corner Willow street and Hubbard avenue.	Perkins
191.	H.	S. E. corner Main street and Hubbard avenue.	Chapman
192.	H.	N. E. corner Main and Union streets.	Chapman
193.	H.	N. E. corner Union and Willow streets.	Perkins
194.	L.	S. E. corner Union and Dale streets.	Chapman
195.	H.	S. W. corner Park and Willow streets.	Perkins
196.	H.	N. E. corner Main and Park streets.	Chapman
197.	H.	S. E. corner Main and Cross streets.	Chapman
198.	H.	N. E. corner Willow and Cross streets.	Matthews
199.	H.	Cross street, south side, midway between Maple and Willow streets.	Chapman
200.	H.	S. E. corner Main street and Crossett avenue.	Chapman
201.	H.	S. E. corner Main and Stockbridge streets.	Chapman
202.	H.	N. E. corner Willow and Stockbridge streets.	Matthews

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No.	High or Low.	Location.	Make.
203.	H.	Stockbridge street, south side, just west of Smith & Wesson's shop.	Perkins
204.	H.	Stockbridge street, south side, just east of Smith & Wesson's shop.	Perkins
205.	H.	N. W. corner State and Chestnut streets.	Matthews
206.	H.	N. E. corner State and Dwight streets.	Chapman
207.	L.	N. W. corner State and Dwight streets.	Chapman
208.	H.	S. E. corner State and Willow streets.	Perkins
209.	H.	N. W. corner State and Market streets.	Chapman
210.	H.	N. E. corner State and Main streets.	Matthews
211.	H.	N. E. corner Main and Sanford streets, 6″ S. con.	Chapman
212.	L.	S. W. corner Market and Sanford streets.	Chapman
213.	L.	Sanford street, north side, midway between Market and Dwight streets.	Chapman
214.	H.	Sanford street, north side, near Dwight.	Perkins
215.	L.	S. W. corner Dwight and East Court streets.	Chapman
216.	H.	N. W. corner Dwight and East Court streets.	Perkins
217.	H.	N. W. corner East Court and New streets.	Chapman
218.	H.	S. W. corner East Court and Market streets.	Chapman
219.	H.	S. E. corner Main and East Court streets.	Matthews
220.	H.	N. E. corner Main street and Townsley avenue.	Matthews
221.	H.	N. W. corner Market street and Townsley avenue.	Chapman
222.	H.	N. E. corner Harrison avenue and Dwight street.	Perkins
223.	L.	S. W. corner Harrison avenue and Dwight street.	Chapman
224.	L.	S. W. corner Harrison avenue and Market street.	Chapman
225.	H.	Main street, east side, opposite Pynchon.	Matthews
226.	H.	S. E. corner Main street and Harrison avenue.	Chapman
227.	H.	Main street, east side, opposite Vernon.	Matthews
228.	H.	N. E. corner Main and Hillman streets.	Matthews
229.	H.	Hillman street, south side, front of Meekins, Packard & Co's block, Nos. 17–19½.	Perkins
230.	H.	Hillman street, south side, midway.	Chapman
231.	L.	S. W. corner Dwight and Hillman streets.	Chapman
232.	H.	N. W. corner Dwight and Hillman streets.	Chapman
233.	H.	N. E. corner Bridge and Dwight streets.	Perkins
234.	L.	Bridge street, north side, at Stearns park.	Chapman
235.	H.	N. E. corner Main and Bridge streets.	Chapman
236.	H.	N. E. corner Main and Worthington streets.	Chapman
237.	L	Worthington street, south side, front of No. 99.	Chapman
238.	H.	S. E. corner Worthington street and Stearns avenue.	Chapman
239.	L.	S. E. corner Worthington and Dwight streets.	Perkins
240.	H.	N. W. corner Worthington and Dwight streets.	Chapman
241.	H.	N E. corner Taylor and Dwight streets.	Perkins
242.	H.	Taylor street, north side, opposite No. 51.	Matthews

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No.	High or Low.	Location.	Make.
243.	H.	—Taylor street, south side, front of No. 23.	Matthews
244.	H.	—N. E. corner Main and Taylor streets.	Matthews
245.	H.	—Main street, east side, opposite Fort.	Chapman
246.	H.	—Main street, east side, opposite Hampden.	Matthews
247.	H.	—N. E. corner Main and Lyman streets.	Matthews
248.	H.	—Lyman street, north side, opposite Nos. 27–31.	Perkins
249.	L.	—Lyman street, north side, opposite Nos. 39–43.	Chapman
250.	H.	—Lyman street, south side, front of No. 53.	Perkins
251.	L.	—Lyman street, north side, opposite Dwight.	Chapman
252.	H.	—S. E. corner Lyman and Dwight streets.	Perkins
253.	L.	—S. E. corner Chestnut and Lyman streets.	Perkins
254.	H.	—N. E. corner Chestnut and Lyman streets.	Chapman
255.	H.	—N. E. corner Chestnut and Charles streets.	Chapman
256.	H.	—S. W. corner Chestnut and Liberty streets.	Chapman
257.	H.	—S. E. corner Chestnut and Liberty streets.	Chapman
258.	L.	—Chestnut street, west side, opposite Liberty.	Perkins
259.	L.	—Liberty street, north side, opposite Day & Jobson's planing mill.	Perkins
260.	H.	—Liberty street, south side, east end of depot.	Chapman
261.	L.	—Liberty street, south side, opposite No. 74.	Chapman
262.	L.	—Liberty street, south side, east of Cooley's hotel.	Chapman
263.	H.	—Liberty street, south side, east of Cooley's hotel.	Chapman
264.	H.	—S. E. corner Main and Liberty streets.	Matthews
265.	H.	—Main street, east side, just south of arch.	Chapman
266.	H.	—Main street, east side, just north of arch.	Chapman
267.	H.	—S. E. corner Main and Ferry streets.	Chapman
268.	L.	—Ferry street, north side, front of No. 46.	Chapman
269.	L.	—Ferry street, north side, opposite No. 97.	Chapman
270.	H.	—Chestnut street, east side, opposite Sharon.	Chapman
271.	L.	—N. W. corner Chestnut and Sharon streets.	Perkins
272.	L.	—Sharon street, north side, front of No. 92.	Perkins
273.	L.	—Sharon street, north side, front of No. 52.	Perkins
274.	H.	—S. E. corner Main and Sharon streets.	Chapman
275.	H.	—N. W. corner Quincy and Colton streets.	Chapman
276.	H.	—S. E. corner Main and Congress streets.	Chapman
277.	L.	—Congress street, north side, opposite No. 33.	Chapman
278.	L.	—Congress street, north side, opposite No. 97.	Chapman
279.	H.	—Chestnut street, east side, opposite Congress.	Chapman
280.	H.	—S. W. corner Chestnut and Franklin streets.	Chapman
281.	H.	—Franklin street, south side, front of Nos. 111–113.	Chapman
282.	H.	—Franklin street, south side, at stone yard.	Chapman
283.	H.	—Franklin street, south side, opposite No. 46.	Chapman
284.	L.	—N. E. corner Main and Franklin streets.	Chapman
285.	H.	—N. E. corner Main and Greenwood streets.	Chapman
286.	L.	—Greenwood street, north side, front of No. 42.	Chapman

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No.	High or Low.	Location.	Make.
287.	L.	Greenwood street, north side, opposite No. 83.	Chapman
288.	L.	Greenwood street, north side, front of No. 118.	Chapman
289.	L.	N. W. corner Chestnut and Tenth streets.	Chapman
290.	L.	Tenth street, north side, opposite Nos. 105–107.	Chapman
291.	L.	Tenth street, north side, front of Nos. 54–56.	Chapman
292.	H.	N. E. corner Main and Tenth streets	Chapman
293.	L.	N. E. corner Main and Essex streets.	Perkins
294.	H.	N. E. corner Main and Essex streets.	Chapman
295.	L.	Essex street, north side, opposite No. 51.	Perkins
296.	L.	Essex street, north side, front of No. 98.	Perkins
297.	L.	Linden, near S. E. corner Chestnut street.	Chapman
298.	L.	N. W. corner Chestnut and Patton streets.	Chapman
299.	L.	S. E. corner Chestnut and Everett streets.	Chapman
300.	L.	Patton street, north side, front of No. 54.	Chapman
301.	L.	N. E. corner Main and Patton streets.	Chapman
302.	H.	S. E. corner Main and Patton streets.	Chapman
303.	H.	S. E. corner Main and Bond streets.	Chapman
304.	L.	N. E. corner Main and Bond streets.	Chapman
305.	L.	Bond street, north side, front of Nos. 110–112.	Chapman
306.	L.	N. E. corner Chestnut and Butler streets.	Chapman
307.	L.	N. E. corner Chestnut and Carew streets.	Chapman
308.	L.	N. E. corner Carew and North streets.	Chapman
309.	L.	Morris street, north side, opposite No. 40.	Chapman
310.	H.	S. E. corner Main and Carew streets.	Chapman
311.	L.	N. E. corner North and Grosvenor streets.	Chapman
312.	L.	N. W. corner Chestnut and Grosvenor streets.	Chapman
313.	L.	S. W. corner Chestnut and Ringgold streets.	Chapman
314.	L.	N. E. corner North and Ringgold streets.	Chapman
315.	L.	S. W. corner North and Morgan streets.	Chapman
316.	L.	Morgan street, south side, midway.	Chapman
317.	L.	N. W. corner North and Osgood streets.	Chapman
318.	L.	S. W. corner North and Bancroft streets.	Perkins
319.	L.	Bancroft street, south side, midway.	Chapman
320.	L.	S. W. corner Chestnut and Bancroft streets.	Chapman
321.	L.	N. W. corner Chestnut and Hebron streets.	Chapman
322.	L.	Hebron street, north side, midway.	Chapman
323.	L.	N. W. corner Chestnut and Allendale streets.	Chapman
324.	L.	N. W. corner Chestnut street and Jefferson avenue.	Chapman
325.	L.	S. W. corner North street and Jefferson avenue.	Chapman
326.	L.	Calhoun street, north side, at North.	Chapman
327.	L.	S. W. corner Chestnut and Waverly streets.	Chapman
328.	L.	Chestnut street, west side, near Springfield.	Chapman
329.	L.	Montmorenci street, north side, midway.	Chapman
330.	L.	N. W. corner Montmorenci and Massasoit streets.	Chapman
331.	L.	S. W. corner Prospect and Massasoit streets.	Chapman

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No.	High or Low.	Location.	Make.
332.	L	—N. W. corner Carew and Massasoit streets.	Chapman
333.	L.	—Arbor street, east side, front of No. 40.	Chapman
334.	L.	—Everett street, south side, midway.	Ayers
335.	L.	—S. W. corner Cass and Everett streets.	Chapman
336.	L.	—S. W. corner Cass and Linden streets.	Chapman
337.	L.	—Linden street, south side, opposite No. 46.	Perkins
338.	L.	—Charles street, west side, midway between Franklin and Liberty streets.	Ayers
339.	H.	—S. E. corner Liberty and Charles streets.	Chapman
340.	H.	—Charles street, west side, near B. & A. freight house.	Chapman
341.	H.	—Liberty street, north side, front of No. 200.	Chapman
342.	L.	—Liberty street, south side, front of R. F. Hawkins' shops.	Perkins
343.	L.	—Summer street, south side, front of No. 147.	Perkins
344.	H.	—Liberty street, south side, opposite Webster.	Chapman
345.	H.	—S. E. corner Liberty and Armory streets.	Chapman
346.	H.	—N. E. corner Carew and Armory streets.	Chapman
347.	L.	—Lyman street, south side, front of Gilbert & Barker's shop.	Chapman
348.	H.	—Lyman street, north side, at Spring.	Chapman
349.	H.	—N. E. corner Chestnut and Taylor streets.	Chapman
350.	H.	—N. W. corner Chestnut and Taylor streets.	Chapman
351.	L.	—S. W. corner Chestnut and Worthington streets.	Chapman
352.	H.	—N. E. corner Chestnut and Worthington streets.	Chapman
353.	H.	—Cass street, S. E. corner Franklin.	Chapman
354.	H.	—N. E. corner Worthington and Alert streets.	Chapman
355.	L.	—S. W. corner Worthington and Spring streets.	Ayers
356.	H.	—N. E. corner Worthington and Spring streets.	Chapman
357.	H.	—N. E. corner Spring and Summer streets.	Chapman
358.	H.	—Worthington street, north side, opposite school-house.	Chapman
359.	H.	—N. E. corner Worthington and Autumn streets.	Chapman
360.	L.	—Summer street, south side, front of No. 103.	Perkins
361.	H.	—Worthington street, north side, opposite No. 377.	Chapman
362.	L.	—S. W. corner Worthington street and Sackett avenue.	Perkins
363.	H	—Worthington street, north side, opposite Sackett avenue.	Chapman
364.	H.	—N. E. corner Worthington street and Kibbe avenue.	Chapman
365.	H.	—Worthington street, north side, opposite No. 485.	Chapman
366.	H.	—N. E. corner Worthington and Federal streets.	Perkins
367.	H.	—N. W. corner Pearl and Federal streets.	Chapman
368.	H.	—Federal street, west side, at Armory gate.	Matthews

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No.	High or Low.	Location.	Make.
369.	H.	—Pearl street, north side, front of No. 242.	Brown
370.	H.	—Pearl street, north side, at angle.	Chapman
371.	H.	—Pearl street, north side, at Byers.	Chapman
372.	H.	—S. E. corner Pearl and Spring streets,	Chapman
373.	L.	—Allendale street, south side, midway.	Chapman
374.	L.	—Pearl street, north side, opposite Salem.	Chapman
375.	L.	—S. E corner Chestnut and Pearl streets.	Chapman
376.	L.	—Chestnut street, east side, near Bridge.	Chapman
377.	L.	—Chestnut street, west side, opposite No. 55.	Chapman
378.	H.	—Chestnut street, west side, opposite Christ church.	Perkins
379.	L.	—Edwards street, north side, opposite No. 37.	Perkins
380.	L.	—Elliott street, west side, front of convent.	Chapman
381.	H.	—N. W. corner State and Elliott streets.	Matthews
382.	L.	—S. E. corner Salem and Elliott streets.	Ayers
383.	H.	—Salem street, north side, opposite Elliott.	Chapman
384.	H.	—N. W. corner State and Spring streets.	Matthews
385.	H.	—N. E. corner Spring and Frost streets.	Chapman
386.	L.	—S. W. corner Spring and Salem streets.	Ayers
387.	H.	—Spring street, east side, opposite Salem, 6″,	Perkins
388.	H.	—State street, north side, near City Library.	Perkins
389.	H.	—State street, south side, front of No. 345.	Perkins
390.	H.	—State street, north side, near Olivet church.	Matthews
391.	H.	—S. E. corner State and Walnut streets.	Matthews
392.	H.	—N. E. corner Federal and Lincoln streets.	Perkins
393.	H.	—N. E. corner Armory and Grant streets.	Chapman
394.	H	—S. E. corner Armory and Magazine streets.	Chapman
395.	H.	—Armory street, east side, at paint shops.	Chapman
396.	H.	—N. W. corner Magazine and Grant streets.	Chapman
397.	H.	—State street, north side, midway Benton park.	Perkins
398.	H.	—N. E. corner State street and St. James avenue.	Perkins
399.	H.	—N. E. corner St. James avenue and Bowdoin street.	Chapman
400.	H.	—S. E. corner Worthington and Bowdoin streets.	Perkins
401.	H	—S. E. corner Bowdoin and Ingersoll grove streets.	Chapman
402.	H.	—S. W. corner Florida and Worthington streets.	Matthews
403.	H.	—S. W. corner Florida street and St. James avenue.	Matthews
404.	H.	—S. E. corner Bay and Pleasant streets.	Perkins
405.	H.	—N. E. corner State and Pleasant streets.	Perkins
406.	H.	—S. E. corner Thompson and Bay streets.	Perkins
407.	H.	—S. E. corner Thompson street and St. James avenue.	Chapman
408.	H.	—Thompson street, east side, midway between St. James avenue and Worthington street.	Chapman
409.	H.	—S. E. corner Worthington and Thompson streets.	Chapman
410.	H.	—Ingersoll grove, east side, at angle.	Chapman

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No.	High or Low.	Location.	Make.
411.	H.	S. E. corner Westminster street and St. James avenue.	Chapman
412.	H.	Westminster street, east side, midway between St. James avenue and Bay street.	Chapman
413.	H.	S. E. corner Bay and Westminster streets.	Ayers
414.	H.	N. E. corner State and Westminster streets.	Perkins
415.	H.	Buckingham street, east side, front of No. 69.	Chapman
416.	H.	S. E. corner Buckingham and Bay streets.	Chapman
417.	H.	N. E. corner Buckingham street and Buckingham place.	Chapman
418.	H.	N. W. corner Buckingham and Clarendon streets.	Chapman
419.	H.	S. E. corner Clarendon street and St. James avenue.	Chapman
420.	H.	Clarendon street, east side, between Bay street and St. James avenue.	Chapman
421.	H.	S. E. corner Sherman and Bay streets.	Chapman
422.	H.	S. E. corner Sherman and McKnight streets.	Chapman
423.	H.	N. E. corner Sherman and State streets.	Perkins
424.	H.	State street, south side, at Winchester park.	Chapman
425.	H.	Catherine street, east side, front of No. 37.	Chapman
426.	H.	Catherine street, east side, front of No. 71.	Chapman
427.	H.	N. E. corner Catherine and McKnight streets.	Chapman
428.	H.	S. E. corner Catherine and Bay streets.	Chapman
429.	H.	N. E. corner Bowles and McKnight streets.	Chapman
430.	H.	Bowles street, east side, midway between Bay and McKnight streets.	Chapman
431.	H.	S. E corner Bowles and Bay streets.	Chapman
432.	H.	Marion street, east side, midway.	Chapman
433.	H.	N. W. corner McKnight street and Girard avenue.	Chapman
434.	H.	Bay street, south side, front of No. 341.	Chapman
435.	H.	S. E. corner Bay street and Girard avenue.	Chapman
436.	H.	Cambridge street, east side, front of No. 45.	Chapman
437.	H.	S. E. corner Bay street and Oak Grove avenue.	Chapman
438.	H.	N. E. corner Dartmouth and Yale streets.	Chapman
439.	H.	Dartmouth street, east side, midway.	Chapman
440.	H.	S. E. corner Dartmouth street and St. James avenue.	Chapman
441.	H.	Dartmouth terrace, east side, front of No. 45.	Chapman
442.	H.	S. E. corner Harvard and Cornell streets.	Chapman
443.	H.	S. W. corner Harvard street and St. James avenue.	Chapman
444.	H.	Harvard street, west side, midway between St. James avenue and Yale street.	Chapman
445.	H.	N. E. corner Harvard and Yale streets.	Chapman
446.	H.	N. W. corner Princeton and Yale streets.	Chapman

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No.	High or Low.	Location.	Make.
447.	H.	Princeton street, west side, between Vassar and Amherst streets	Chapman
448.	H.	S. W. corner St. James avenue and Princeton street.	Chapman
449.	H.	S E. corner Cornell and Princeton streets.	Chapman
450.	H.	S. E. corner Cornell and Wellesley streets.	Chapman
451.	H.	St. James avenue, north side, opposite Dorchester street.	Chapman
452.	H.	N. W. corner Monmouth and Yale streets.	Chapman
453.	H.	N. W. corner Lafayette and Amherst streets.	Chapman
454.	H.	N. E. corner State and Andrew streets.	Perkins
455.	H.	Andrew street, east side, midway.	Chapman
456.	H.	State street, north side, opposite No. 1029.	Chapman
457.	H	State street, north side, front of No. 1090.	Chapman
458.	H.	State street, north side, west of Carlisle brook.	Chapman
459.	H.	S. E. corner State and Benton streets.	Chapman
460.	H	Boston road, north side, front of Alden Warner's.	Chapman
461.	H.	N E. corner College street and Wilbraham road.	Chapman
462.	H.	Wilbraham avenue, east side, midway	Chapman
463.	H.	S E. corner Waltham avenue and Wilbraham road.	Chapman
464.	H.	N. W. corner Hancock and Quincy streets.	Chapman
465.	H.	S. W. corner Colton street and Wilbraham road.	Chapman
466.	H.	S. W. corner Wilbraham road and Eastern avenue.	Chapman
467.	H.	S. E. corner State and Winchester streets.	Chapman
468	H	S. E. corner State and Hancock streets.	Perkins
469.	H.	N. E. corner Monroe and Hancock streets.	Chapman
470.	H.	Monroe street, north side, front of No. 72.	Perkins
471	H.	N. W. corner Monroe street and Eastern avenue.	Chapman
472.	H.	N. W. corner Monroe and Colton streets.	Chapman
473.	H.	S. W. corner Colton and Union streets.	Chapman
474	H.	S. W. corner Union street and Eastern avenue.	Chapman
475.	H.	Union street, south side, front of No. 660.	Chapman
476.	H.	Union street, south side, front of No. 709.	Chapman
477.	H.	S. E. corner Union and Hancock streets.	Matthews
478.	H.	Quincy street, north side, front of No. 181.	Chapman
479.	H.	Quincy street, north side, front of No. 230.	Chapman
480.	H.	N. W. corner Quincy street and Eastern avenue.	Chapman
481.	H.	N. W. corner Tyler and Colton streets.	Chapman
482.	H.	S. W. corner Tyler street and Eastern avenue.	Chapman
483.	H.	Tyler street, north side, front of No. 220.	Chapman
484.	H.	Tyler street, north side, opposite No. 183.	Chapman
485.	H.	N. W. corner Hancock street and Pendleton avenue.	Perkins
486.	H.	Pendleton avenue, north side, opposite No. 163.	Chapman
487.	H.	Pendleton avenue, north side, opposite No. 209.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
488.	H.	N. W. corner Pendleton and Eastern avenues.	Chapman
489.	H.	Beacon street, south side, at Colton.	Chapman
490.	H.	N. W. corner Eastern avenue and King street.	Chapman
491.	H.	King street, north side, front of No. 184.	Chapman
492.	H.	King street, north side, opposite Nelson avenue.	Chapman
493.	H.	N. E corner King and Hancock streets.	Matthews
494.	H.	N. W. corner Lebanon and Hancock streets.	Matthews
495.	H.	N. W. corner Lebanon street and Nelson avenue.	Chapman
496.	H.	N. W. corner Lebanon street and Merrick avenue.	Chapman
497.	H.	Eastern avenue, east side, opposite Lebanon street.	Chapman
498.	H.	N. W. corner Granville and Logan streets.	Chapman
499.	H.	N. W. corner Greene street and Eastern avenue.	Chapman
500.	H.	Greene street, north side, front of No. 88.	Chapman
501.	H.	N. W. corner Greene street and Nelson avenue.	Chapman
502.	H.	N. E. corner Greene and Hancock streets.	Matthews
503.	H.	Alden street, north side, front of No. 24.	Chapman
504.	H.	Alden street, north side, front of No. 86.	Chapman
505.	H.	N. W. corner Alden street and Eastern avenue.	Chapman
506.	H.	N. E. corner Manhattan and Walnut streets.	Chapman
507.	H.	S. W. corner Hancock and Florence streets.	Matthews
508.	H.	N. W. corner Hancock and Hawthorn streets.	Chapman
509.	H.	N. W. corner Hancock street and Hancock avenue.	Chapman
510.	H.	N. E. corner Hickory and Walnut streets.	Matthews
511.	H.	Walnut street, east side, opposite No. 396.	Matthews
512.	H.	Hickory street, north side, opposite Smith & Adams's slaughter-house.	Chapman
513.	H.	S. W. corner Mill and Allen streets.	Chapman
514.	H.	S. W. corner Highland and Allen streets.	Chapman
515.	H.	Allen street, east side, at White street.	Chapman
516.	H.	Allen street, east side, near chapel.	Chapman
517.	H.	Allen street, east side, opposite No. 228.	Chapman
518.	H.	Allen street, east side, near railroad.	Chapman
519.	H.	White street, west side, opposite chapel.	Chapman
520.	H.	White street, west side, front of No. 74.	Chapman
521.	H.	Terrence street, east side, midway.	Matthews
522.	H.	N. W. corner Union and Stebbins streets.	Perkins
523.	H.	N. E. corner Union and Orleans streets.	Perkins
524.	H.	S. E. corner State and Orleans streets.	Matthews
525.	H.	Lillian street, north side, opposite No. 17.	Chapman
526.	H.	S W. corner Oak street and Charter avenue.	Chapman
527.	H.	N. E. corner Walnut street and Charter avenue.	Perkins
528.	H.	S. W. corner Walnut and Union streets.	Perkins
529.	H.	N. E. corner Quincy and Oak streets.	Perkins

Digitized by Google

No.	High or Low.	Location.	Make.
530.	H.	N. W. corner Quincy and Orleans streets.	Chapman
531.	H.	N. E. corner Quincy and Stebbins streets.	Chapman
532.	H	Tyler street, north side, front of Blake Mfg Co.'s shop.	Perkins
533.	H.	N. E. corner Tyler and Orleans streets.	Perkins
534.	H.	S. E. corner Pendleton avenue and Walnut street.	Perkins
535.	H.	N. E. corner Pendleton avenue and Orleans street.	Chapman
536.	H.	King street, north side, midway between Hancock and Walnut streets.	Chapman
537.	H.	N. W. corner Walnut and James streets.	Matthews
538.	H	James street, west side, midway.	Chapman
539.	H.	Queen street, north side, opposite No. 43.	Chapman
540.	H.	N. W. corner Cedar and Walnut streets.	Perkins
541.	H.	N. W. corner Ashley and Walnut streets.	Chapman
542.	H.	Ashley street, north side, opposite No. 49.	Chapman
543.	H.	Ashley street, north side, front of No. 92.	Chapman
544.	H.	N. E. corner Pine and Cedar streets.	Matthews
545.	H.	N. E. corner Pine and Central streets.	Perkins
546.	H.	S. W. corner Florence and Spruce streets.	Matthews
547.	H.	Spruce street, east side, front of No. 34.	Perkins
548.	H.	Hawthorn street, north side, midway.	Chapman
549.	H.	S. E. corner Spruce and Central streets.	Matthews
550.	H.	S. E. corner Hancock and Central streets.	Matthews
551.	H.	N. E. corner Mill and Central streets.	Matthews
552.	H	N. W. corner Cherry and Central streets.	Chapman
553.	H.	Cherry street, north side, opposite No. 51.	Chapman
554.	H.	Cherry street, north side, just west of No. 92.	Chapman
555.	H	Pine street, north side, opposite No. 239.	Perkins
556.	H.	N. W. corner Maple and Pine streets. 6″.	Perkins
557.	H.	Central street, west side, front of No. 319.	Matthews
558.	H.	S. E. corner Central and Cedar streets.	Matthews
559.	H.	Central street, north side, east of Maple street.	Matthews
560.	H.	Avon place, north side, midway.	Chapman
561.	H.	N. E. corner Maple street and Avon place.	Chapman
562.	H.	S. E. corner Maple and Mulberry streets.	Chapman
563.	H.	Liberty street, south side, opposite Cass.	Chapman
564.	H.	N. E. corner School and Mulberry streets.	Perkins
565.	H.	Union street, north side, opposite Mulberry.	Perkins
566.	H.	N. E. corner Union and School streets.	Perkins
567.	H	N. E. corner Union and Maple streets.	Chapman
568.	H.	Maple street, west side, opposite High street.	Chapman
569.	L.	S. E. corner Maple and High streets.	Ayers
570.	H.	N. E. corner High and School streets.	Perkins
571.	H.	Myrtle street, east side, midway.	Perkins
572.	H.	S. W. corner High street and Ingraham avenue.	Perkins

Digitized by Google

No.	High or Low.	Location.	Make.
573.	H.	S. W. corner School and Temple streets.	Chapman
574.	H.	Temple street, south side, front of No. 46.	Chapman
575.	H.	S. E. corner Maple and Temple streets.	Chapman
576.	H.	S. W. corner Maple and Stockbridge streets.	Perkins

☞ (*See "Indian Orchard" hydrants, at end of list, for missing numbers.*)

598.	H.	Lyman street, north side, midway between Spring and Chestnut streets.	Chapman
599.	H.	Maple street, east side, front of Mrs. S. J. Gordon's.	Matthews
600.	H.	Walnut street, east side, at Oak street.	Perkins
601.	H.	N. W. corner Hancock and Tyler streets.	Matthews
602.	L.	Clinton street, south side, midway.	Chapman
603.	L.	Vine street, south side, midway.	Chapman
604.	L.	Holyoke street, north side, midway.	Chapman
605.	L.	Auburn street, north side, midway.	Chapman
606.	L.	Demond avenue, north side, midway.	Chapman
607	H.	N. E. corner Dorchester and Truxton streets.	Chapman
608.	H.	King street, N. W. corner Logan.	Chapman
609.	H.	S. E. corner Sumner and Firglade avenues.	Chapman
610.	H.	S. E. corner Sumner avenue and Hawthorn place.	Chapman
611.	H.	N. W. corner Belmont avenue and Oakland street.	Chapman
612	H.	S. E. corner Belmont avenue and Litchfield street.	Chapman
613.	H.	Litchfield street, at end.	Chapman
614.	H.	N. E. corner Forest and Garfield streets.	Chapman
615.	L.	N. E. corner Fulton and Emery streets.	Chapman
616.	L.	N. E. corner Fulton and Clinton streets.	Chapman
617.	L.	N. E. corner Fulton and Vine streets.	Chapman
618	L.	N. E. corner Fulton and Holyoke streets	Chapman
619.	L.	N. E. corner Fulton and Auburn streets.	Chapman
620.	L.	N. E. corner Fulton and Seventh streets.	Chapman
621.	L.	Fulton street, opposite M. Dunn's house, Round Hill.	Chapman
622.	H.	N. E. corner Liberty and Vinton streets.	Chapman
623.	H.	S. W. corner Liberty street and Heywood avenue.	Chapman
624.	H.	Wilbraham avenue, at end.	Chapman
625.	H.	State street, west of N. Y., N. H. & H. R. R.	Chapman
626.	H.	N. W. corner Ladd and Logan streets.	Chapman
627.	H.	N. W. corner Olive and Logan streets.	Chapman
628.	H.	Highland street, N. W. corner Shamrock avenue.	Chapman
629.	H.	Highland street, N. W. corner Orange.	Chapman
630.	H.	Oakland street, N. W. corner Dickinson.	Chapman
631.	H.	Oakland street, west side, opposite No. 46.	Chapman
632.	H.	Hall street, west side, midway.	Chapman
633.	H.	Hall street, N. W. corner Dickinson.	Chapman

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No.	High or Low.	Location.	Make.
634.	H.	—Churchill street, S. E. corner Garfield.	Chapman
635.	H.	—Churchill street, N. E. corner Sumner avenue.	Chapman
636.	H.	—Greenleaf street, N. E. corner Sumner avenue.	Chapman
637.	H.	—Greenleaf street, S. E. corner Garfield.	Chapman
638.	H	—Park avenue, N. E. corner Sumner.	Chapman
639.	H.	—Northampton street, S. E. corner Wilbraham road.	Chapman
640.	H.	—Northampton street, east side, midway.	Chapman
641.	H.	—Northampton street, at south end.	Chapman
642.	H.	—Cambridge street, east side, opposite No. 84.	Chapman
643.	H.	—Madison avenue, east side, south end.	Chapman
644.	H.	—Pine street, east side, opposite No. 109.	Chapman
645.	H.	—Pine street, east side, opposite No. 55.	Chapman
646.	H.	—Vinton street, S. E. corner Franklin.	Chapman
647.	L.	—Grosvenor street, south side, midway.	Chapman
648.	L.	—Ringgold street, south side, midway.	Chapman
649.	L.	—Lexington avenue, N. W. corner Massasoit street.	Chapman
650.	L.	—Talcott avenue, N. E. corner Plainfield street.	Chapman
651.	L.	—Abbe avenue, N. W. corner Plainfield street.	Chapman
652.	H.	—Elm street, S. W. corner Court square.	Chapman
653.	H.	—Water street, N. E. corner Bliss.	Chapman
654.	H.	—Water street, N. E. corner Howard.	Chapman
655.	H.	—Howard street, north side, near N. Y., N. H. & H. R. R.	Chapman
656.	H.	—Mill street, south side, opposite Maple.	Chapman
657.	H.	—Noel avenue, N. W. corner Shamrock.	Chapman
658.	H.	—Manhattan street, north side, midway.	Chapman
659.	H.	—Manhattan street, N. W. corner Eastern avenue.	Chapman
660.	H.	—College avenue, east side, midway.	Chapman
661.	H.	—College avenue, S. E. corner Shattuck	Chapman
662.	H.	—Maynard avenue, west side, near State street.	Chapman
663.	L.	—Bond street, north side, midway.	Chapman
664.	H.	—Douglass street, N. E. corner North Main.	Chapman
665.	L.	—Talcott avenue, north side, midway.	Chapman
666.	H.	—Birnie avenue, S. E. corner Douglass street.	Chapman
667.	H.	—Birnie avenue, just south No. 666.	Chapman
668.	H.	—Birnie avenue, 200 feet north Grace street.	Chapman
669.	L.	—Orchard street, N. W. corner Plainfield.	Chapman
670.	L.	—Orchard street, west end, north side.	Chapman
671.	H.	—North street, N. E. corner Carew.	Chapman
672.	H.	—Chestnut street, S. E. corner Carew.	Chapman
673.	H.	—Massasoit street, N. E. corner Carew.	Chapman
674.	H.	—Chestnut street, S. E. corner Linden.	Chapman
675.	H.	—Hawthorn place, east side.	Chapman
676.	H.	—Firglade avenue, east side.	Chapman
677.	H.	—Magnolia terrace, at Sumner avenue.	Chapman

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No.	High or Low.	Location.	Make.
678.	H.	Magnolia terrace, end of pipe.	Chapman
679.	H.	Park avenue, N. E. corner Fort Pleasant.	Chapman
680.	H.	Fairfield street, north side, midway.	Chapman
681.	H.	Orange street, south side, 380 feet west of White.	Chapman
682.	H.	White street, west side, 900 feet south of Orange.	Chapman
683.	H.	Monmouth street, at Berkeley.	Chapman
684.	H.	Reed street, corner Wilbraham road.	Chapman
685.	H.	Middlesex street, corner Wilbraham road.	Chapman
686.	H.	Willard avenue, west side, near Shattuck street.	Chapman
687.	L.	Plainfield street, at No. 407.	Chapman

☞ (*See "Indian Orchard" hydrants, at end of list, for missing numbers.*)

693.	H.	Collins street, near N. W. corner Logan.	Chapman
694.	H.	Norfolk street, S. E. corner Wilbraham road.	Chapman
695.	H.	Norfolk street, east side, end of pipe.	Chapman
696.	H.	Cortland street, west side, midway.	Chapman
697.	H.	Dawes street, west side, midway.	Chapman
698.	H.	Hancock street, west side, south of Central, at end.	Chapman
699.	H.	Ridgewood place, S. W. corner Union street.	Chapman
700.	H.	Ridgewood place, N. W. corner Mulberry street.	Chapman
701.	H.	Beech street, east side midway.	Chapman
702.	L.	Alexander street, N. E. corner North.	Chapman
703.	H.	Hyde avenue, S. E. corner Plainfield.	Chapman
704.	H.	Bond place, west side, south end.	Chapman
705.	L.	Acushnet avenue, north side, midway.	Chapman
706.	L.	Acushnet avenue, north side, end of pipe.	Chapman
707.	L.	Warriner avenue, north side, end of pipe.	Chapman
708.	H.	Euclid avenue, north side, midway.	Chapman
709.	H.	Euclid avenue, N. W. corner Dickinson street.	Chapman
710.	H.	Central street, at Stearns terrace, 6″.	Chapman
711.	H.	Clifford street, south side, midway.	Chapman
712.	H.	Montrose street, east side, midway, 6″.	Chapman
713.	L.	Marble street, N. E. corner Main, 6″.	Chapman
714.	L.	Marble street, north side, end of pipe, 6″.	Chapman
715.	H.	Spruceland avenue, S. W. corner Magnolia terrace.	Chapman
716.	H.	Summer street, S. W. corner Federal, 6″.	Chapman
717.	H.	Summer street, S. E. corner Kibbe avenue, 6″.	Chapman
718	L.	Stockbridge street, S. W. corner Willow, 6″, S. con.	Chapman
719.	L.	State street, S. W. corner Willow, 6″, S. con.	Chapman
720.	L.	Bridge street, S. E. corner Barnes, 6″, S. con.	Chapman
721.	L.	Dwight street, S. W. corner Bridge, 6″, S. con.	Chapman
722.	L.	Dwight street, S. W. corner New, 6″, S. con.	Chapman
723.	L.	Chestnut street, east side, opposite Taylor, 6″, S. con.	Chapman
724.	L.	Railroad row, S. W. corner Main street, 6″, S. con.	Chapman

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No.	High or Low.	Location.	Make.
725.	H.	Dwight street, front of No 109, 6″, S. con.	Chapman
726.	H.	State street, north side, front of No. 52, 6″, S. con.	Chapman
727.	L.	State street, south side, front of No. 71, 6″, S. con.	Chapman
728.	L.	State street, south side, at Unity church, 6″, S. con.	Chapman
729.	L.	State street, south side, at High school, 6″, S. con.	Chapman
730.	H.	State street, north side, at cathedral, 6″, S. con.	Chapman
731.	H	State street, north side, opposite Woodworth avenue, 6″, S. con.	Chapman
732.	H	Main street, S. E. corner Adams, 6″.	Chapman
733.	H.	Main street, east side, opposite Lombard, 6″.	Chapman
734.	H.	Main street, east side, front of No. 739, 6″.	Chapman
735.	H.	Main street, east side, opposite Gardner, 6″.	Chapman
736.	H.	Main street, N. E. corner Marble, 6″.	Chapman
737.	H.	Main street, east side, opposite Broad, 6″.	Chapman
738.	H.	Main street, N. E. corner Rutledge avenue, 6″.	Chapman
739.	L.	Rutledge avenue, north side, midway.	Perkins
740.	H.	Main street, N. E. corner Acushnet avenue, 6″.	Chapman
741.	H.	South street, east side, below Long hill, 6″, S. con.	Chapman
742.	H.	South street, east side, at south end bridge, 6″, S. con.	Chapman
743.	H.	Spruceland avenue, north side, opposite Smith's.	Perkins
744.	H.	Maplewood terrace, N. E. corner Fort Pleasant avenue, 6″, S. con.	Chapman
745.	H.	Maplewood terrace, north side, midway, S. con.	Chapman
746.	H.	Maplewood terrace, N. W. corner Park avenue.	Chapman
747.	H.	Sumner avenue, south side, at Forest park, 6″, S. con.	Chapman
748.	H.	Johnson street, north side, end of pipe, 6″.	Chapman
749.	H.	LaVerne avenue, S. E. corner Bellevue.	Perkins
750.	H.	Kenwood avenue, S. E. corner Bellevue.	Chapman
751.	H.	Bellevue avenue, S. W. corner Dickinson street.	Chapman
752.	H.	Allen street, north side, just east of N. E. R. R.	Perkins
753.	H.	Allen street, north side, midway of Nos. 752 and 754.	Perkins
754.	H.	Allen street, N. W. corner Plumtree road.	Chapman
755.	H.	Alden street, N. W. corner Logan.	Perkins
756.	H.	Hancock avenue, north side, midway, S. con.	Chapman
757.	H.	Hancock avenue, N. E. corner Spruce street, 6″, S. con.	Chapman
758.	H.	Wilbraham avenue, east side, end of pipe.	Perkins
759.	H.	Suffolk street, east side, end of pipe.	Chapman
760.	H.	Maple dell, N. E. corner State street, 6″, S. con.	Chapman
761.	H.	Maple dell, S. E. corner Burr street, S. con.	Chapman
762.	H.	State street, north side, at N. E. R. R., 6″, S. con.	Chapman
763	H.	Chapin street, east side, midway.	Chapman
764.	H.	Marion street, south end, west side.	Chapman

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No.	High or Low.	Location.	Make.
765.	H.	Lincoln street, N. W. corner Magazine, S. con.	Chapman
766.	H.	Springfield street, S. W. corner Armory.	Perkins
767.	H.	Rimmon avenue, S. W. corner Gladwood.	Perkins
768.	H.	Rimmon avenue, south side, end of pipe.	Perkins
769.	H.	Springfield street, opposite city hospital, 6″, S. con.	Chapman
770.	H.	Eagle street, N. W. corner Chestnut, S. con.	Chapman
771.	H.	Merwin street, N. W. corner Chestnut, S. con.	Chapman
772.	H.	Birnie avenue, S. E. corner Alfred street, 6″.	Perkins
773.	H.	Franklin street, S. E. corner Main, 6″, S. con.	Chapman
774.	L.	Liberty street, S. E. corner Main, 6″, S. con.	Chapman
775.	L.	Lyman street, S. E. corner Main, 6″, S. con.	Chapman
776.	L.	Main street, west side, front of No. 360, 6″, S. con.	Chapman
777.	L.	Main street, west side, front of No. 388, 6″, S. con.	Chapman
778.	H.	Main street, east side, front of No. 415, 6″, S. con.	Chapman
779.	H.	Main street, east side, front of No. 445, 6″, S. con.	Chapman
780.	H.	Harrison avenue, N. E. corner Main street, 6″.	Perkins
781.	H.	Harrison avenue, north side, opposite Market street, 6″.	Chapman
782.	H.	Harrison avenue, north side, front of No. 44, 6″.	Perkins
783.	H.	Harrison avenue, south side, front of No. 37, 6″.	Perkins
784.	H.	Harrison avenue, N. W. corner Dwight, 6″.	Chapman
785.	H.	Chestnut street, west side, opposite No. 49, 6″.	Chapman
786.	H.	Chestnut street, west side, opposite Edwards, 6″.	Chapman
787.	H.	Chestnut street, N. W. corner Harrison avenue, 6″.	Chapman
788.	H.	Chestnut street, west side, opposite Mattoon, 6″.	Chapman
789.	H.	Chestnut street, west side, opposite Pearl, 6″.	Chapman
790.	H.	Chestnut street, N. W. corner Bridge, 6″.	Chapman
791.	H.	Chestnut street, S. W. corner Worthington, 6″.	Chapman
792.	H.	Summer street, north side, opposite Autumn.	Perkins

☞ (*See "Indian Orchard" hydrants, at end of list, for No.* 793).

INDIAN ORCHARD.

577.	H.	S. W. corner Water and Cedar streets.	Chapman
578.	H.	N. W. corner Main and Cedar streets.	Perkins
579.	H	S. W. corner Main and Pine streets.	Perkins
580.	H.	N. E. corner Main and Oak streets.	Chapman
581.	H.	S. E. corner Water and Oak streets.	Chapman
582.	H.	N. W. corner Main and Myrtle streets.	Perkins
583.	H.	Main street, north side, west end of park.	Perkins
584.	H.	S. W. corner Worcester and Myrtle streets.	Perkins
585.	H.	S. W. corner Chestnut and Worcester streets.	Ayers
586.	H.	S. E. corner Hampden and Myrtle streets.	Perkins
587.	H.	N. E. corner Berkshire and Myrtle streets.	Perkins

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No.	High or Low.	Location.	Make.
588.	H.—	N. E. corner Berkshire and Chestnut streets.	Perkins
589.	H.—	N. W. corner Hampshire and Myrtle streets.	Chapman
590.	H.—	N. E. corner Hampshire and Oak streets.	Chapman
591.	H.—	S. W. corner Hampden and Oak streets.	Chapman
592.	H.—	S. W. corner Worcester and Oak streets.	Chapman
593.	H.—	N. W. corner Worcester and Pine streets.	Chapman
594.	H.—	Pine street, at Chapman Valve works.	Chapman
595.	H.—	N. W. corner Hampshire and Pine streets.	Chapman
596.	H.—	Oak street, west side, near Essex, south.	Chapman
597.	H.—	Oak street, west side, near Essex, south of No. 596.	Chapman
688.	H.—	Main street, 600 feet east of Cedar.	Chapman
689.	H.—	Main street, near Wilbraham line.	Chapman
690.	H.—	Parker street, S. W. corner Main.	Chapman
691.	H.—	Parker street, west side, 1200 feet south of Main.	Chapman
692.	H.—	Berkshire street, north side.	Chapman
793.	H.—	Oak street, west side, end of pipe.	Chapman

FLUSH HYDRANTS.

L.—N. E. corner Hampden and Water streets.
L.—N. E. corner Water and Fort streets.

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MAIN AND DISTRIBUTION PIPE

IN USE DECEMBER 1, 1895.

[*Pipe Belonging to Private Parties Marked (P).*

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Abbe ave., west from Plainfield st	6	....	....	....	760	
do. east from Plainfield st	6	....	....	....	17	777
Acushnet ave., east from Main st	6	....	....	....	1,080	1,080
Adams st., Main to Ashmun	8	....	....	.	1,038	1,038
Alden st., Hancock to Logan	6	....	....	1,974	....	1,974
Alert st., north from Worthington	1	....	260	....	....	260
Alexander st	6	....	....	....	762	762
Allen ave., north from Allen st. (P)	2	22	....	....	....	22
Allen st., Mill to White	8	....	....	930	....	
do. White to Plumtree road	6	....	....	4,487	....	5,417
Allendale st	6	....	....	....	707	707
Amherst st	6	....	....	1,339	....	1,339
Andrew st., north from Boston road	4	....	....	1,405	....	1,405
Arbor st., Carew to Butler	6	....	....	....	457	457
Arch st., North Main to Conn. River R. R.	6	....	....	....	985	985
do. west from North Main	6	....	....	51	....	51
Armory st., Federal to Worthington	4	....	....	936	....	
do. north from Worthington	8	....	....	702	....	
do. Summer to Van Horn res. rvoir	8	....	....	5,571	....	
do. Van Horn reservoir to Springfield st	12	....	....	2,584	....	9,793
Ashley st., Cedar to Hancock	6	....	....	1,427	....	1,427
Ashmun st., Central to Adams	8	....	....	....	269	269
Auburn st	6	....	....	....	887	887
do. west from Main	6	....	....	90	....	90
Avon place	4	....	....	715	....	715
do. east from Maple	4	....	437	....	....	
do. east from wrought iron	4	....	....	....	416	853
Bancroft st., North Main to North	6	....	....	....	911	
do. North to Chestnut	6	....	....	....	600	
do. at Chestnut	8	....	....	.	4	1,515
do. east from North Main	6	....	....	21	....	21
Banks ave., west from Water st. (P)	1½		193	....	....	193
Bay st., St. James ave. to Thompson st	8	1,275	.	....	....	
do. Thompson to Oak Grove cemetery	8	....	.	3,793	....	5,068
Beacon st., Eastern ave. to Colton st.	6	....	....	374	....	
do. east from Colton	2	129	.	....	....	503
Beech st	6	....	....	560	....	560
Bellevue ave	8	....	....	1,728	....	1,728
Belmont ave., Fort Pleasant ave. to Oakland st	8	....	....	3,617	....	3,617

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Benton st., south from Boston road	4	....	....	1,175	....	
do. south from 4" (P)	1¼	432	....	....	....	1,607
Berkeley st	6	....	....	493	....	493
Berkshire st., I. O., west from Myrtle (see Ludlow reservoir)	24		....	....	....	
do. east from Myrtle	6	....	....	456	....	456
Birnie ave., Grace st. to Walter	2	....	283	....	....	
do. south from Walter st.	6	....	....	....	168	451
do. north from Grace st.	8	....	....	206	....	
do. south from Grace st.	8	....	....	12	....	
do. Alfred st. to Douglass	6	....	....	281	....	
do. south from Douglass st.	6	....	....	176	....	675
Bliss st., Main to Water	6	....	....	..	995	
do. at Water (west)	6	....	....	....	40	
do. west from Water	2	....	361	....	....	1,396
Bond place, south from Bridge st. (P)	1¼	....	144	....	....	144
do.	6	....	....	191	....	191
Bond st., Main to Chestnut	6	....	....	....	1,673	1,673
do. east from Main	6	....	....	18	....	
do. east from 6"	4	....	....	183	....	201
Boston & Albany R. R. line of	8	....	....	....	1,225	1,225
Boston ave., south from Boston road (P)	1¼	172	....	....	....	172
Boston and Indian Orchard roads (see Ludlow reservoir)	24		....	....	....	
Bowdoin st., St. James ave. to Worthington st.	4	....	....	1,202	....	
do. north from Worthington	6	....	....	833	....	2,035
Bowles st., Catherine to McKnight	2	700	....	....	....	
do. McKnight to Bay	4	....	....	811	....	1,511
Boylston st.	6	....	....	....	934	934
Bradford st., north Main to Fulton	6	....	....	....	1,011	1,011
do. west from North Main	6	....	....	67	....	67
Bridge st., Water to Main	6	....	....	....	772	
do. Main to Chestnut	6	....	....	....	1,149	1,921
do. Main to Water	6	....	....	873	....	
do. east from Main	6	....	....	211	....	1,084
Brightwood ave., west from Plainfield st	6	....	....	....	176	176
Broad st., west from Main	8	....	1,001	....	....	
do. east from Hanover	4	....	....	....	52	1,053
Brown st., Bay to Yale	6	....	....	564	....	564
Buckingham st., north from State	6	670	....	....	....	
do. south from Bay	6	....	....	600	....	
do. Bay to Clarendon	4	....	....	806	....	2,076
Buckingham Place	1½	338	....	....	....	338
Burr st., east from Andrew	4	....	....	695	....	695
Butler st., Chestnut to Arbor	6	....	....	....	975	
do. east from Arbor	6	....	....	....	194	
do. east from 6" (P.)	4	....	....	....	33	
do. east from private 4"	4	....	....	....	313	1,515
Butler st., crossing to Everett (proposed st.)	4	....	....	....	197	197
Byers st.	6	1,452	....	....	..	1,452
Calhoun st., North Main to North	6	....	....	....	750	
do. east from North	6	....	....	....	365	1,115
do. east from North Main	6	....	....	16	....	16
Cambridge st., south from Bay	6	....	....	890	....	
do. north from Burr	6	....	....	263	....	1,153
Carew st., near Main to near Chestnut	8	....	1,512	....	....	
do. west from Chestnut	8	....	....	....	26	

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Totals in Feet.
Carew st., east from Chestnut	6	....	....	....	33	
do. east from 6"	3	....	....	....	4	
do. near Chestnut to Massasoit	3	....	553	....	....	
do. east from Massasoit	6	....	....	....	350	
do. Main to North	16	....	875	....	....	3,353
do. east from Main	8	....	....	19	....	
do. Main to Chestnut (see Ludlow reservoir, "Main No. 2")	20	....	....	———	....	
do. east from Chestnut (see Ludlow reservoir, "Main No. 2")	24	....	....	———	....	
do. west from Armory (P)	1½	559	....	....	....	
do. east from Armory	6	....	....	11	....	589
Cass st., Linden to Everett	4	....	....	....	359	359
do. Liberty to Franklin	6	....	....	596	....	5 9
Catherine st., State to Bay	12	....	....	1,771	....	
do. Bay to Dartmouth	12	....	....	190	....	1,961
Cedar st., Walnut to Pine	16	1,254	....	....	....	
do. west from Pine	2	225	....	....	....	1,479
Cedar st., I. O.	4	374	....	....	....	374
Center st., I. O., east from Oak	2	359	....	....	....	
do. west from Cedar	2	360	....	....	....	
do. west from 2"	1½	52	....	....	....	771
Central st., east from Main	4	....	....	....	482	
do. west from Maple	6	....	959	....	....	1,441
do. Maple to Mill	8	....	....	4 035	....	4,035
Central st. avenue	2	250	....	....	....	250
Chapel st., east from Eastern ave. (P)	1	234	....	....	....	234
Chapin pond, at pumping station	8	....	....	163	....	
do. do.	12	....	....	299	....	462
Chapin st. (including Marion st. extension)	6	....	....	1,239	....	1,239
Charles st., south from Franklin	3	....	287	....	....	
do. north from Liberty	4	....	324	....	....	611
do. south from Liberty	4	....	....	204	....	204
Charter ave.	2	370	....	....	....	370
Cherry st., south from Central	6	....	....	1,130	....	1,130
Chester st., south from Central (P)	2	246	....	....	....	
do. south from 2" (P)	1¼	39	....	....	....	285
Chestnut st., brook to Jefferson ave.	20	....	1,715	....	....	
do. at Jefferson ave. (north)	20	....	....	....	10	
do. Jefferson ave. to Franklin	12	....	....	....	3,325	
do. Franklin to East Taylor	8	....	....	....	1,540	
do. Taylor to Worthington	6	....	333	....	....	
do. Worthington to Pearl	6	....	....	....	461	
do. south from Pearl	3	....	775	....	....	
do. north from State	4	....	625	....	....	8,784
do. Eagle to Springfield	8	....	....	613	....	
do. north from Carew	8	....	....	15	....	
do. Carew to Worthington	8	....	....	5,384	....	
do. Worthington to Harrison ave.	12	....	....	901	....	
do. Harrison ave. to 6"	8	....	....	644	....	
do. 8" to State st.	6	....	....	260	....	5,817
Chestnut st., I. O., Hampden to Worcester	4	369	....	....	....	369
Chicopee Falls road, Ludlow, west from 30" main	2	1,219	....	....	....	1,219
Church st., North Main to North	6	....	....	....	898	898
do. east from North Main	6	....	....	19	....	19
Churchill st.	6	....	....	675	....	675

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MAIN AND DISTRIBUTION PIPE—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
City Hall ave	4	....	...	131	....	131
Clarendon st., Bay to St. James ave	6	....	....	1,068	...	
do. north from Worthington (for hydrant)	6	....	....	12	....	
do. north from Worthington	2	233	....	....	....	1,313
Clifford st	4	....	....	505	....	505
Clifton ave., south from Central st.	4	....	....	504	....	504
Clinton st., Main to Fulton	6	....	....	....	796	796
College ave., State st. to Shattuck	6	....	....	833	....	
do. north from Shattuck	6	....	...	168	....	1,001
College st., State to Wilbraham road	8	....	....	567	....	567
Collins st., east from Eastern ave	6	....	....	539	....	539
Colton st., Wilbraham road to Beacon st	6	....	....	1,680	....	1,680
Concord terrace	2	188	....	....	....	188
Congress st., Main to near Chestnut	6	....	....	....	1,533	
do. west from Chestnut	4	....	....	....	60	1,593
Conn. River R. R., under tracks, connecting Arch and Washburn sts	6	....	....	....	226	226
Cook's ave., Bridge st. to North Church ave	4	....	....	....	126	126
Cornell st	6	....	....	1,829	....	1,829
Cortland st., State to Shattuck	6	....	....	797	....	797
Cottage ave., east from Walnut st. (P)	1¼	169	....	....	....	169
Court st., Main to Water	6	..	....	....	1,060	
do. at Water	8	....	....	....	4	1,064
do. west from Main	8	....	....	294	....	294
Cross st., at Willow, east	6	....	....	12	....	
do. 6" to Maple st	4	....	....	605	....	617
Cycle st., east from Heywood st. (P)	6	....	....	386	...	
do. for hydrants (P)	4	....	....	24	....	410
Cypress ave., at Cypress st.	4	....	..	..	9	
do. north from Cypress st.	3	....	210	....	....	219
Cypress st., Main to Fulton	6	....	....	...	720	720
do. Main to Fulton	8	....	....	676	....	676
Dale st., Union to William	6	....	....	...	400	
do. William to Winthrop	4	....	....	....	249	649
Dartmouth st., Bay to St. James ave	12	....	....	1,036	....	1,036
Dartmouth terrace, west from St. James ave	6	....	....	479	....	479
Dawes st	6	....	....	1,250	....	1,250
Demond ave	6	....	....	....	922	922
do. at Fisk ave	6	....	....	2	....	2
Dexter st, George to Knox (P)	2	719	....	...	....	719
Dickinson st., Oakland to Johnson	6	....	....	163	....	163
Dorchester st	6	....	....	620	....	620
Douglass st, North Main to Birnie ave.	6	...	....	582	....	582
Dwight st., State to Bridge	6	....	....	....	1,565	
do. Bridge to Worthington	6	....	286	....	....	
do. crossing sewer at Worthington	6	....	....	....	45	
do. south from Lyman	6	....	....	....	49	1,945
do. State to Lyman (less 8" crossing Worthington st.)	10	....	....	2,322	....	
do. crossing sewer at Worthington	8	....	....	28	...	2,350
Dymon st.	2	475	....	....	....	475
Eagle st., at North Main, west	6	....	....	13	....	
do. North Main to Chestnut	6	....	....	596	....	609
East Court st	4	....	....	584	....	584

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Eastern ave., in State st., at 24" main	8	....	....	18	....	
do. from gate at State st. 24" main to Tyler st.	12	....	....	1,568	....	
do. Tyler st. to Pendleton ave	12	350	....	....	....	
do. Pendleton ave. to Manhattan st.	8	....	....	1,873	....	3,809
East Hooker st., east from North Main	6	....	....	....	361	361
do. do.	4	....	....	14	....	14
Edwards st.	4	....	....	....	737	737
Elliott st.	4	....	913	....	....	913
Elm st., Main to near Water	6	....	....	....	965	
do. east from Water	8	....	....	....	15	
do. west from Water (P)	1¼	....	395	....	....	1,375
do. west from Main	8	....	....	306	....	306
Elmwood st., west from Main	6	....	....	....	810	810
Emery st.	6	....	....	....	724	724
do.	8	....	....	716	....	716
Essex st., Main to near Chestnut	6	....	1,625	....	....	
do. west from Chestnut	6	....	....	....	25	1,650
do. east from Main	6	....	....	14	....	14
Essex st., I. O., Myrtle to Pine	8	....	....	1,222	....	1,222
Euclid ave	6	....	....	1,163	....	1,163
Everett st., east from Chestnut	6	....	....	....	46	
do. east from 6"	4	....	1,204	....	....	
do. west from Cass	4	....	....	....	50	
do. east from Cass	4	....	....	....	302	1,602
Fairbanks ave., from Worthington st.	3	....	329	....	....	329
Fairfield st., north from Garfield	6	....	....	934	....	934
Federal st., State to Armory	16	....	....	998	....	
do. Armory to Summer	8	....	....	1,500	....	2,498
Ferry st., east from Main	6	....	....	....	30	
do. east from 6"	4	....	459	....	....	
do. west from Chestnut	6	....	....	....	1,083	1,572
Firglade ave., south from Sumner	6	....	....	833	....	833
Fisk ave., south from Wason	8	....	1,493	....	....	1,493
do. south from Wason	12	....	....	736	....	
do. south from 12" Grace st. line	8	....	....	205	....	941
Florence st., Pine to Hancock	6	1,615	....	....	....	
do. east from Hancock	2	263	....	....	....	
do. west from Walnut	1	88	....	....	....	1,966
Florida st., north from Bay	6	1,520	....	....	....	
do. south from Worthington	6	....	....	14	....	
do. north from Worthington	6	....	....	850	....	2,384
Forest park, from Sumner ave. (P)	6	....	....	2,610	....	
do. for hydrants (P)	4	....	....	30	....	2,640
Forest st., Belmont ave. to Park ave.	6	....	....	843	....	843
Fort st., Main to Water	6	....	....	....	715	715
do. west from Main (P)	4	....	....	76	....	76
Fort Pleasant ave., south from Mill st.	12	....	....	167	....	
do. south from Belmont ave.	8	....	....	287	....	
do. south from 8"	1¼	94	....	....	....	
do. north from Sumner ave.	6	....	....	1,176	....	1,724
Franklin st., Main to Chestnut	6	....	....	....	1,610	
do. east from Chestnut	6	....	....	....	21	
do. east from Charles	1¼	....	131	....	....	1,762
do. Main to Chestnut	8	....	....	1,583	....	
do. east from Cass (P)	1¼	128	....	....	....	
do. west from Liberty	2	1,173	....	....	....	2,884
Fremont st., Main to Water	6	....	....	....	831	831

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Fulton st., Cypress to Plainfield	6	....	....	....	3,530	
do. Plainfield to brow of Round Hill	6	....	....	....	456	3,986
Gardner st., Main to Water	12	....	500	....	....	
do. west from Water	12	....	84	....	....	
do. west from 12"	8	....	399	....	....	
do. west from 8"	6	....	150	....	....	
do. east from Hanover	4	....	....	....	42	1,175
do. Gardner ave. to Hanover st.	8	....	....	189	....	189
Gardner ave	8	....	....	329	....	329
Garfield st	6	....	....	1,544	....	1,544
George st., south from Pine (P)	2	354	....	....	....	
do. north from Maple	2	170	....	....	....	524
Girard ave., Bay st to McKnight	6	....	....	975	....	975
Gladwood ave	6	....	....	492	....	492
Grace st., North Main to Birnie ave.	4	....	509	....	....	509
do. North Main to Birnie ave	12	....	....	690	....	
do. Birnie ave. crossing to Fisk ave.	12	....	....	390	....	1,080
Grant st.	4	....	....	600	....	600
Granville st., Eastern ave to Logan st.	6	....	....	497	....	497
Gray's ave., north from Cypress	6	....	....	....	358	
do. north from 6"	4	....	221	....	....	
do. south from Emery st	6	....	....	....	14	593
Greene st., Hancock to Eastern ave.	6	....	....	1,363	....	1,363
Greene st. ave., north from Greene st.	2	200	....	....	....	200
Greenleaf st	6	....	....	666	....	666
Greenwood st., east from Main	6	....	....	....	1,271	
do. west from Chestnut	4	....	....	....	337	1,608
Grosvenor st., North to Chestnut	6	....	....	....	773	773
Grove st., at North Main (east and west)	6	....	....	32	....	32
Hall st., Belmont ave. to Dickinson st.	6	....	....	997	....	997
Hampden st., west from Main	6	....	....	....	22	
do. Main to Water	12	....	700	....	....	722
do. Main to Water	8	....	....	660	....	660
Hampden st., I. O., Myrtle to Chestnut.	4	750	....	....	....	
do. Myrtle to Oak	4	....	....	662	....	1,412
Hampshire st., I. O.	4	....	....	1,829	....	1,829
Hancock ave	6	....	....	636	....	636
Hancock st., State to Lebanon	16	2,400	....	....	....	
do. Lebanon to Walnut	12	....	....	990	....	
do. Florence to Hancock ave.	6	....	....	576	....	
do. Hancock ave. to Central st	6	....	....	550	....	
do. at Central (south)	8	....	....	3	....	
do. south from Central	4	....	....	225	....	
do. south from 4"	6	....	....	412	....	5,096
Hanover st., Gardner to Broad	4	....	....	....	513	513
do. Gardner to York	8	....	....	789	....	789
Harrison ave., Main st. to Dwight	6	....	....	....	649	649
do. Main st. to Chestnut	12	....	....	895	....	
do. at Main st	6	....	....	25	....	
do. west from Dwight	6	....	....	173	....	1,093
Harvard st., Yale to St James ave.	6	....	....	947	....	
do. St. James ave. to Cornell st.	6	....	....	716	....	1,663
Hawley st	6	515	....	....	....	515
Hawthorn place, south from Sumner av	6	....	....	616	....	616
Hawthorn st., Spruce to Hancock	4	....	....	568	....	568
Hebron st., North to Chestnut	6	....	....	....	746	746
Heywood av., south from Liberty st. (P)	6	....	....	257	....	257

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Hickory st., east from Central	2	488	....	....	....	
do. east from Walnut st. main	6	125	....	....	....	
do. from east line of Walnut to Alden (including crossing private land to a point 154 feet west of cor. Alden and Hickory sts)	4	....	....	2,613	....	
do. Alden to Woodbine ave	4	....	....	550	....	
do. east from Woodbine ave	3	810	....	....	....	
do. east from 3"	1½	146	....	....	....	4,732
High st., Maple to School	3	....	781	....	....	781
do. School to Walnut	6	1,854	....	....	....	1,854
Highland st., Allen to Orange	6	....	....	1,537	....	1,537
Hillman st., east from Main	8	....	....	226	....	
do. west from Dwight	4	....	....	455	....	681
Hillside place, east from Richelieu st. (P.)	2	....	120	....	....	120
Holyoke st	6	....	....	....	874	874
do. west from Main	6	....	....	86	....	86
Homer st	6	....	....	644	....	644
Hooker st., west from North Main	6	....	....	14	....	14
Howard st., Main to Water	6	....	....	....	994	
do. west from Water	2	....	420	....	....	
do. west from Water	6	....	362	....	....	1,776
do. west from Water	6	....	....	42	....	
do. near Water (west) to railroad (P.)	4	....	....	304	....	346
Howard st., Ludlow, east from North (P)	1½	441	....	....	....	441
Hubbard ave., Main to Dale	6	....	....	....	621	621
Hyde ave., east from Plainfield st	6	....	....	....	17	17
do. at Fisk ave	4	....	....	7	....	
do. west from 4"	6	....	....	930	....	937
Hydrants, sundry streets	4	....	974	....	1,516	
do. sundry streets	6	....	....	....	192	2,682
do. sundry streets	4	....	....	3,669	....	
do. sundry streets	6	....	....	1,803	....	
do. sundry streets	8	....	....	169	....	5,641
Ingersoll grove, Worthington st. to Bowdoin	6	....	....	1,433	....	1,433
James st	4	....	....	959	....	959
Jefferson ave., at North Main st	8	....	....	....	10	
do. North Main to North	12	....	....	....	876	
do. North to Chestnut	16	....	482	....	....	
do. east from North Main	1¼	....	225	....	....	1,593
do. at North Main	12	....	....	15	....	15
John st., east from Fulton	6	....	....	....	419	
do. west from Plainfield	4	....	....	....	259	678
Johnson st., east from Dickinson	6	....	....	109	....	109
Keith st	6	....	....	1,102	....	1,102
Kenwood ave., south from Bellevue	6	....	....	23	....	23
Kibbe ave., south from Summer st	6	....	....	....	38	
do. north from Worthington st	6	....	202	....	....	240
do.	8	....	....	240	....	240
King st., Walnut to Hancock	4	....	....	995	....	
do. Hancock to Eastern ave	6	....	....	1,365	....	
do. east from Eastern ave	6	....	....	455	....	2,815
King st. ave., King st. to Lebanon	2	367	....	....	....	
do. at Lebanon st	1	7	....	....	....	374
Knox st., Mill to Dexter (P)	2	674	....	....	....	674
Ladd st	6	....	....	513	....	513
Lafayette st	6	....	....	620	....	620
Laurel ave., west from Plainfield st	6	....	....	....	674	674

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MAIN AND DISTRIBUTION PIPE.—Continued.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
La Verne ave., south from Bellevue	6	....	....	26	....	26
Lebanon st., Walnut to Hancock	16	630	....	....	....	
do. Hancock to Eastern ave	6	....	....	1,377	....	2,007
Lexington ave	6	....	....	....	666	
do. (n.side) east from Chestnut st. (P)	2	....	323	....	....	
do. (s.side) east from Chestnut st. (P)	2	....	195	....	....	1,184
Liberty st., east from Main	6	....	....	....	1,195	
do. west from Chestnut	4	....	....	....	276	
do. east from Chestnut	6	....	1,800	....	....	3,271
do. Main to Chestnut	6	....	....	1,424	....	
do. west from Chestnut (P)	2	212	....	....	....	
do. east from Chestnut	6	....	....	2,613	....	
do. west from Armory	2	1,961	....	....	....	
do. east from Armory	6	....	....	24	....	6,234
Lillian st., Oak to Orleans	4	....	....	440	....	440
Lincoln st	6	....	....	804	....	804
Linden st., east from Chestnut	6	....	....	....	34	
do. east from cast-iron	4	....	1,266	....	....	
do. west from Cass	4	....	....	....	16	1,316
Litchfield st., Belmont ave. to Garfield	6	....	....	421	....	421
Locust st., Main to near Mill	12	732	....	....	....	
do. north from Mill	12	....	....	25	....	757
Logan st., at Olive (for flush gate)	6	....	....	10	....	10
Lombard reservoir, ——to Armory st.	6	....	2,137	....	....	2,137
Lombard st	4	....	....	....	658	658
Long Hill st., South st. to near Spruceland ave	8	....	....	2,500	....	
do. 8" to Spruceland ave	6	....	....	45	....	
do. from 8" to opposite E. H. Barney's house	2	1,798	....	....	....	4,343
Loring st., at Water	8	....	....	....	9	
do. east from Water	6	....	....	....	678	687
do. Main to Water	8	....	....	789	....	789
Lowell st	6	....	....	....	1,372	1,372
Ludlow reservoir, as follows:						
Supply Main No. 1.						
Gatehouse to Higher brook	24		....	3,736	....	
Higher brook to Federal st. (less 215 feet *cast-iron* under tracks of B. & A. R. R., as below)	24	52,460	....	....	....	
Federal to Spring, 1,773 feet (see State st.)	16		....	....	....	
Spring to Main, 2,026 feet (see State st.)	16	....	....		....	
Under Athol branch tracks of B. & A. R. R.	24	....	....	135	....	
Under main tracks of B. & A. R. R.	24	....	....	80	....	56,411
Supply Main No. 2.						
Gatehouse, through dam	30	....	....	120	....	
Dam to intersection of Main No. 1	36	....	....	13,388	....	
Intersection of Main No. 1 to 24" (in Carew st.)	30	....	....	39,899	....	
30" (in Carew st.) to Chestnut st	24	....	....	2,380	....	
Chestnut st. (in Carew st.) to Main st.	20	....	....	1,670	....	57,457
At Reservoir.						
Distributing canal to cut-off basin	36	....	....	36	....	
Under cut-off dam	36	....	....	132	....	
At Cherry Valley drain gate	20	....	....	36	....	204

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-Lined. or Wrought-Iron. High Service	Cement-Lined. or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Lyman st., Main to Chestnut	8	....	....	....	1,369	
do. east from Chestnut	8	....	....	....	230	
do. east from 8" cast-iron	6	....	123	....	....	
do. west from Spring	6	....	....	....	425	2,147
do. Main to Dwight	6	....	....	850	....	
do. Dwight to Chestnut	8	....	....	475	....	
do. Chestnut to Spring	6	....	....	768	....	2,093
Madison ave., north from Central st	6	....	....	556	....	556
Magazine st., Grant to Armory	4	....	....	638	....	638
Magnolia terrace, south from Sumner ave	6	....	....	909	....	909
Main st., Carew to Liberty (south)	16	....	2,415	....	....	
do. Liberty (south) to Lyman (north)	16	....	....	....	318	
do. Lyman (north) to Hampden	16	....	242	....	....	
do. Hampden to Central	12	....	....	....	4,340	
do. Central to Locust	12	....	2,018	....	....	
do. Locust to Mill	6	....	830	....	....	10,163
do. Carew to State	16	....	....	5,210	....	
do. State to Locust	12	....	....	4,143	....	
do. Mill to Mill river	12	....	....	310	....	
do. at Carew (between high and low services)	6	....	....	25	....	
do. at Bridge (between high and low services, and sewer man-hole)	6	....	....	24	....	9,712
Main st., I. O., west from Myrtle	8	....	....	510	....	
do. Myrtle to beyond Cedar (see Ludlow reservoir)	24	....	....	....	....	
do. at 24" main, east	8	....	....	24	....	
do. from 24" main to Wilbraham line	6	....	....	3,930	....	4,464
Main Supply Pipes—(see "Ludlow reservoir" and "Van Horn reservoir")						
Manhattan st., Walnut to Eastern ave.	6	....	....	1,120	....	1,120
Maple ave., east from Maple st (P)	2	340	....	....	....	340
Maple dell	6	....	....	1,013	....	1,013
Maple st., State to opposite No. 143	6	....	1,816	....	....	
do. opposite No. 143 to Central	8	....	249	....	....	2,065
do. Stockbridge to Union	6	....	....	857	....	
do. Union to Central	8	....	....	1,295	....	
do. Central to Pine	6	1,753	....	....	....	
do. opposite No. 310 (connecting 6" and 4")	4	....	....	15	....	
do. opposite No. 310 to near Pine (east)	4	....	....	650	....	
do. near Pine (east) to Mill	4	756	....	....	....	5,266
Maplewood terrace	6	....	....	1,378	....	1,378
Marble st	8	....	....	....	1,084	1,084
Margaret st., Main to Water	6	....	....	....	884	
do. west from Water	4	....	....	....	566	1,450
Marion st., Bay to McKnight	6	....	....	889	....	889
Market st., State to Harrison ave	6	....	....	....	1,058	1,058
do. south from Townsley ave	4	....	....	95	....	95
Massasoit st., north from Carew	3	....	400	....	....	
do. north from 3"	6	....	....	....	288	
do. Lexington ave. to Montmorenci st	6	....	....	....	330	
do. north from Montmorenci st (P)	1½	....	158	....	....	1,176
do. at Carew (for hydrant)	6	....	....	50	....	50
Mattoon st., Chestnut to Elliott	4	....	625	....	....	625
do. west from Elliott	6	....	....	362	....	362

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Totals in Feet
Maynard ave., State st. to Shattuck	6	....	....	612	....	612
McKnight st., Sherman to Bowles	4	....	....	507	....	
do. Bowles to Girard ave	6	....	....	414	....	921
Mechanic st., west from Water	6	....	....	....	35	
do west from 6"	2	....	353	....	....	388
Mechanics row	2	....	220	....	....	220
Merrick ave., King st. to Lebanon	2	348	....	....	....	
do. at Lebanon st	1	24	....	....	....	372
Merwin st	6	....	....	730	....	730
Middlesex st., south from Wilbraham road	6	....	....	48	....	48
Mill st., U. S. Watershops to Central	8	....	....	400	....	
do. Pine to Locust	16	1,157	....	....	....	
do. Locust to Main	12	....	....	581	....	2,138
Monmouth st., Truxton to Yale	4	....	....	497	....	
do. Yale to Berkeley	6	....	....	479	....	976
Monroe st., east from Hancock	6	....	....	824	....	
do. from cast-iron to Hawley	6	154	....	....	....	
do. Hawley to Colton	6	....	....	730	....	1,708
Monson ave., north from Greene st	2	199	....	....	....	199
Montmorenci st	6	....	....	....	678	678
Montrose st., south from Burr	6	....	....	978	....	978
Moore ave., west from Plainfield st	6	....	....	....	663	663
Morgan st., east from North Main	6	....	....	....	178	
do. east from 6"	4	....	....	....	63	
do. from 4" to near North st	6	....	....	....	580	
do. west from North	4	....	....	....	75	896
do. east from North Main	6	....	....	21	....	21
Morris st., east from Main	6	....	....	...	784	
do. 6" to Central	8	....	....		326	1,110
Mulberry st., Maple to School	3	....	642	....	....	642
do. east from Maple (P)	2	445	....	....	....	
do. west from School (P)	1	220	....	....	....	
do. School to Union	6	1,380	....	....	....	2,045
Myrtle st	4	....	....	548	....	548
Myrtle st., I. O., Main to Berkshire (see Ludlow reservoir)	24	——	....	....	....	
do. Berkshire to Essex	8	....	....	845	....	845
Nelson ave., King st. to Lebanon	2	358	....	....	....	
do. at Lebanon st. (north)	1	17	....	....	....	
do. Lebanon st. to Greene	2	411	....	....	....	786
New st., west from Dwight	2	....	180	....	....	180
Noel ave., west from Highland st	6	....	....	671	....	671
Norfolk st., south from Wilbraham road	6	....	....	1,200	....	1,200
North st., Carew to Jefferson ave	16	....	2,000	....	....	
do. north from Jefferson ave. (P)	2	....	208	....	....	
do. south from Calhoun	1¼	....	181	....	....	
do. Calhoun to Waverly	6	....	....	....	696	3,085
do. at Carew (for hydrant)	6	....	....	51	....	51
Northampton ave	6	....	....	1,258	....	1,258
North Church ave	4	....	....	....	400	400
North Main st., at Carew	8	....	....	....	16	
do. Carew to near Bancroft (north) (less cast-iron opposite No. 138-140)	8	....	2,100	....	....	
do. opposite No. 138-140	8	....	....	....	21	
do. near Bancroft (north), to near Hooker (north)	8	....	....	....	1,316	

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MAIN AND DISTRIBUTION PIPE.—Continued.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
North Main st., near Hooker (north), to Wason ave. (less cast-iron at Thomas st, crossing Burt's brook)	8	....	2,641	....	....	
do. at Thomas st. (crossing Burt's brook)	8	....	....	....	52	
do. north from Wason ave	8	....	....	....	28	6,174
do. Carew to Grace	16	....	....	5,415	....	
do. at proposed street of Birnie and Adams	8	....	....	24	...	
do. at proposed street, midway Adams' nursery (east)	6	....	....	20	....	
do. at proposed street, midway Adams' nursery (west)	4		....	14	....	
do. Grace to Chicopee line (P.)	1¼	1,740	...	....	...	7,213
Norwood st	6	....	....	....	1,016	1,016
Oak st	6	1,450	....	....	....	1,450
Oak st, I. O., north from Main, I. O	4	....	....	362	....	
do south from Worcester, I. O	1¼	150	....	...	....	
do. south from Hampshire, I. O	4	....	....	961	....	1,473
Oakland st., at Belmont ave	8	....	....	21	....	
do. 8" to Orange st	6	....	....	1,872	....	1,893
Oakley st., east from Main	6	....	....	....	305	305
Olive st	6	....	....	515	...	515
Orange st., west from White	6	..	....	382	....	382
Orchard st	6	....	...	....	1,005	1,005
Orleans court, west from Orleans st. (P)	1¼	182	...	...	....	182
Orleans st., State to Union	4	....	...	755	....	
do Union to Pendleton ave	6	....		858	....	1,613
Osgood st., east from North Main	4	....	925	....	....	
do. west from North	4	...	....	....	33	
do. at North	8	...	....	....	3	961
do. east from North Main	6	....	....	21	....	21
Oxford st, east from Fort Pleasant ave	6	...	....	26	....	26
Palmer ave., east from Locust st. (P)	2	850	....	....	....	850
Park ave., Fort Pleasant to Sumner	6	...	....	2 625	....	
do. south from Sumner	6	...	....	403	....	
do. south from 6 inch	1¼	66	....	....	....	3,094
Parker st., south from Main, I. O	6	....	....	1,175	....	1,175
Park st, east from Willow	3	....	....	....	224	
do. east from 3"	6	....	....	....	202	
do. west from Maple	6	....	344	....	....	770
Patton st., east from Main	4		....	....	810	
do west from Chestnut	6	....	....	....	881	1,691
do. east from Main	6	....	....	16	....	16
Pearl st, Spring to Chestnut	4	....	964	....	....	964
do. Byers to Federal	4	....	....	2,150	..	2,150
Pendleton ave., Walnut st. to Hancock	8	1,290	....	....	..	
do. Hancock st. to Eastern ave	6	....	....	1,356	....	2,646
Pine st., Walnut to Cedar	6	....	....	1,679	....	
do. Cedar to Mill (less 24")	16	2,660	....	....	....	
do. south from Maple	24	114	....	..	....	4,453
Pine st, I. O., Main to beyond Chapman Valve Mfg. Co	6	....	....	1,807	....	1,807
Pine st. court	2	365	..	....	....	365
Plainfield st, north from Bradford	6	....	....	....	17	
do. near Bradford to John	4	....	....	....	276	
do. John to Fulton	6	...	....	....	1,072	
do. Lowell to Washburn	6	....	...	....	278	

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Plainfield st., Washburn to Orchard	8	....	....	....	341	
do. south from Abbe ave	8	....	....	....	800	
do. Abbe ave. to Wason	8	....	....	....	1,491	4,275
Pleasant st., State to Bay	4	500	....	....	....	500
Plymouth st	6	....	....	....	500	500
Princeton st., Bay to Cornell	6	....	....	1,877	....	1,877
Prospect st., Chestnut to Massasoit	4	....	....	....	577	577
Pynchon st., at Water	8	....	....	....	15	
do. east from 8"	6	....	....	....	16	
do. east from 6"	3	....	....	....	800	
do. from 3" to Main st	6	....	....	....	35	866
do. west from Main	8	....	....	355	....	355
Queen st., east from Walnut	4	....	....	420	....	
do. west from Hancock	6	....	....	356	....	776
Quincy st., Oak to Hancock	6	....	....	1,427	....	
do. west from Hancock st. main	8	....	....	11	....	
do. east from Hancock st. main	8	....	....	8	....	
do. Hancock to Eastern ave	6	....	....	1,370	....	
do. east from Eastern ave	6	....	....	317	....	3,133
Railroad row, west from Main st	6	....	....	....	63	
do. Main to Water	3	....	562	....	....	625
Raymond ave., north from Carew st (P)	2	158	....	....	....	158
Reed st., south from State (P)	2	690	....	....	....	
do. at Wilbraham road	6	....	....	9	....	699
Richelieu place, east from Richelieu st. (P)	2	....	145	....	....	145
Richelieu st., south from Adams	4	....	....	....	414	414
Ridgewood place	6	....	....	587	....	587
Ridgewood terrace, north from Mulberry st. (P)	2	286	....	....	....	286
Rimmon ave., west from Gladwood	6	....	....	1,038	....	1,038
Ringgold st., North to Chestnut	6	....	....	....	753	753
Ripley ave	2	204	....	....	....	204
Rutland ave., north from Wilbraham road	1¼	141	....	....	....	
do. north from 1¼"	3	37	....	....	....	178
Rutledge ave., east from Main st	6	....	....	....	326	326
Sackett's ave., south from Worthington st. (P)	¾	....	180	....	....	180
Salem st., Spring to Elliott	3	....	392	....	....	392
do.	6	....	....	434	....	434
Sanford st., east from Main	6	....	....	....	70	
do. west from Market	4	....	....	....	90	
do. Market to Dwight	6	....	....	....	392	552
do. at Dwight	4	....	....	6	....	
do. west from Dwight	6	....	....	183	....	189
Sargeant st., west from Main	6	....	....	....	90	
do. near Main to near Fulton	6	....	805	....	....	
do. east from Fulton	6	....	....	....	12	907
do. west from Main	6	....	....	194	....	194
School st., High to Union	3	....	376	....	....	376
do. State to High	6	560	....	....	....	
do. High to Mulberry	4	937	....	....	....	1,497
Seventh st., west from Main	4	....	702	....	....	
do. east from Fulton	6	....	....	....	224	926
do. west from Main	6	....	....	88	....	88
Shamrock ave., west from Highland st.	2	161	....	....	....	
do. south from Noel ave	6	....	....	229	....	390
Sharon st., Main to Chestnut	6	....	1,585	....	....	1,585

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Shattuck st., College ave., to Cortland st	6	....	....	967	....	967
Sheldon st., west from North Main	4	....	341	....	....	341
do. at North Main	6	....	....	12	....	12
Sheridan ave., south from Morgan st	2	....	162	....	....	
do. south from 2"	1½	....	54	....	....	216
Sherman st., State to Bay	4	....	....	1,600	....	
do. Bay to Clarendon (P)	1	101	....	....	....	1,701
Silver st., east from Armory	4	....	....	573	....	573
Smith st., Maple to Dorne	4	....	....	302	....	302
South st., Mill river to Long Hill st	12	....	....	600	....	
do. south from Long Hill st	8	....	....	1,167	....	
do. south from 8"	6	....	....	411	....	2,178
Spring st., State to near Summer	6	....	2,075	....	....	
do. near Summer to Lyman	6	....	....	....	350	2,425
do. State to Lyman	6	....	....	2,373	....	2,373
Springfield st. to Chestnut (at brook)	20	....	850	....	....	850
do. east from Chestnut	8	....	....	414	....	
do. west from Armory	8	....	....	240	....	654
Spruce st	4	735	....	....	....	735
Spruceland ave., Long Hill st. to Magnolia terrace	6	....	....	1,109	....	1,109
State st., west from Water	6	....	....	....	165	
do. west from 6" cast-iron	1¼	....	31	....	....	
do. Water to Main	6	....	....	....	993	
do. east from Main	6	....	....	....	50	
do. near Main to Maple	8	....		....	772	
do. Maple to Spring	6	....	1,132	....	....	3,143
do. west from 4" (west of Water) (P)	2	244	....	....	....	
do. west from Water	4	....	....	330	....	
do. Water to near Main	8	....	....	923	....	
do. west from Main	12	....	....	12	....	
do. Main to Spring	16	....	....	2,026	....	
do. Spring to Federal	16	1,773	....	....	....	
do. east from Fed'l (see Ludlow res.)	24		....	....	....	
do. Catherine to Eastern ave. (south of 24" main—for Catherine st.)	12	....	....	138	....	
do. west from College (south of 24" main—for College st.)	8	....	....	93	....	5,539
Sterns terrace, north from Central st.	2	475	....	....	....	475
Stebbins spring—through dam	8	....	....	....	36	
do. dam to intersection of pipe from Lombard reservoir	6	....	....	....	1,300	1,336
Stebbins st., State to Union	4	....	....	776	....	776
St. James ave., State st. to Bay	8	200	....	....	....	
do. Bay to Thompson	6	....	....	1,640	....	
do. Thompson to near Dartmouth	6	....	....	1,054	....	
do. south from Dartmouth	8	....	....	12	....	
do. north from Dartmouth	6	....	....	12	....	
do. near Dartm'th to near Lafayette	8	....	....	1,321	....	
do. near Lafayette to Dorchester	6	....	....	174	....	4,413
Stockbridge st., Main to Willow	6	....	....	....	368	368
do. Maple to Willow	6	....	....	470	....	470
Suffolk st., south from Wilbraham road	6	....	....	1,385	....	1,385
Summer st., east from Spring	6	....	....	....	43	
do. from 6" to Autumn st	3	....	644	....	....	
do. Autumn st. to Kibbe ave	8	....	....	....	1,221	
do. no. to site of old Atholeng. house	4	....	....	....	210	2,118
do. Kibbe ave. to Federal st	8	....	....	891	....	
do. Federal to Armory	8	....	....	300	....	1,191

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Sumner ave., Long Hill st. to Fort Pleasant ave	6	....	....	668	....	
do. Fort Pleasant ave. to Forest park	8	....	....	2,453	....	3,121
Symonds ave., Worthington st. to North Church ave	4	....	....	....	150	150
Talcott ave., east from Plainfield st	6	....	....	....	735	
do. cast-iron to Fisk ave	6	....	42	....	....	777
Taylor ave., west from Willow st	2	....	197	....	....	197
Taylor st., east from Chestnut	3	....	358	....	....	358
do. Main to Dwight	8	....	....	843	....	
do. west from Chestnut	6	....	....	44	....	887
Temple st., Maple to School	4	....	....	1,137	....	1,137
Tenth st., Main to Chestnut	6	....	....	....	1,625	1,625
do. east from Main	6	....	....	25	....	25
Terrence st	4	815	....	....	....	815
Thomas st., at North Main	6	....	....	44	....	44
Thompson st., State to St. James ave	8	1,540	....	....	....	
do. St. James ave. to Worthington st	8	....	....	716	....	2,256
Townsley ave	6	....	....	174	....	174
Truxton st	4	....	....	186	....	186
Tyler st., Oak to Hancock	6	1,440	....	....	....	
do. Hancock to Colton	6	....	....	1,689	....	3,129
Union st., railroad to near Water st	4	....	386	....	....	
do. west from Water	4	....	....	....	49	
do. Water to Main	6	....	....	....	968	
do. Main to Maple	6	....	....	....	1,148	
do. Maple to School	3	....	692	....	....	3,243
do. Main to Willow	6	....	....	356	....	
do. Maple to School	6	....	....	665	....	
do. School to Hancock	8	3,925	....	....	....	
do. Hancock to Colton	6	....	....	1,686	....	6,632
Van Horn reservoir, from gatehouse through dam	12	....	....	....	200	
do. from gatehouse through dam	16	....	....	....	200	
do. dam to Springfield st	20	....	1,800	....	....	2,200
do. from Armory st. (high service supply)	6	....	....	242	....	242
Vassar st	6	....	....	542	....	542
Vernon st., Main to Water	6	....	....	....	910	910
Vine st., Main to Fulton	6	....	....	....	823	823
do. west from Main	6	....	....	89	....	89
Vinton st., Liberty to near Franklin	6	....	....	641	....	641
Walker st	6	....	619	....	....	619
do. Walker to Gardner ave	8	....	....	450	....	
do. Gardner ave. to railroad	6	....	....	223	....	673
Walnut st., State to Union	12	700	....	....	....	
do. Union to Cedar	8	2,087	....	....	....	
do. Cedar to Hancock	8	....	....	630	....	
do. Hancock to U. S. Watershops	12	....	....	1,510	....	4,927
Walter st., east from Birnie ave	2	....	251	....	....	251
do. at North Main	6	....	....	41	....	41
Waltham ave., so. from Wilbraham road	6	....	....	537	....	537
Warren ave., west from Hancock st	2	112	....	....	....	112
Warriner ave., east from Locust st	6	....	....	360	....	360
Washburn st., west from Plainfield	6	....	....	....	1,453	1,453
Wason ave., west from North Main st	8	....	707	....	....	
do. from 8" to Fisk ave	12	....	....	....	213	
do. Fisk ave. to near Plainfield st	10	....	....	....	972	
do. east from Plainfield st	8	....	....	....	15	1,907

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Wason ave., east from Fisk ave	12	....	....	15	....	
do. west from Fisk ave	8	....	....	14	....	29
Water st., Railroad row to near Fort st.	6	....	615	....	....	
do. Walker to Lombard	6	....	....	....	105	
do. Hampden to Gardner	12	....	4,810	....	....	5,530
do. State to Howard	8	....	....	476	....	
do. Loring to Walker	8	....	....	184	....	660
Waverly st., North Main to near Chestnut	8	....	860	....	....	
do. near Chestnut to 12"	8	....	....	....	33	
do. 8" to Chestnut	12	....	....	....	15	908
do. at North Main (east and west)	6	....	....	31	....	31
Webster ave., north from Pearl st	8	....	238	....	....	
do. south from Pearl st. (P)	1½	....	142	....	....	380
Webster st., north from Liberty (P)	1	211	....	....	....	211
Wellesley st	6	....	....	481	....	481
Westminster st., State to Bay	6	1,100	....	....	....	
do. Bay to St. James ave	6	....	....	920	....	2,020
White st., south from Allen	6	....	....	2,587	....	2,587
Whitney ave., west from Water	4	....	....	....	419	419
Wight ave., east from Water	6	....	....	....	277	
do. east from 6" (P)	1¼	....	209	....	....	486
Wilbraham ave., south from Wilbraham road	6	....	....	1,569	....	1,569
Wilbraham road, Eastern ave to Norfolk st	12	....	....	3,927	....	
do. west from Reed st. (P)	1¼	153	....	....	....	4,080
Wilcox street., Main to Water	6	....	....	....	965	
do. at Water (east and west)	8	....	....	....	6	
do. Water to railroad	4	....	....	....	457	1,428
Willard ave., south from Shattuck st	6	....	....	350	....	350
William st., railroad to Water	6	....	523	....	....	
do. Water to Main	6	....	....	....	945	
do. east from Main	6	....	....	....	23	
do. east from 6"	4	....	227	....	....	
do. west from Dale	6	....	....	....	388	2,106
do. east from Main	6	....	....	248	....	248
Willow st., State to Taylor ave	6	....	....	....	630	
do. at Taylor ave	4	....	....	....	3	
do. Taylor ave. to Park st	3	....	....	....	153	786
do. State to Hubbard ave	10	....	....	1,220	....	1,220
Winchester st	4	543	....	....	....	543
Windsor st., east from Pine	2	679	....	....	....	679
Winthrop st., east from Main	6	....	....	....	52	
do. west from Dale	4	....	658	....	....	710
Woodbine ave., north from Hickory st.	4	....	....	327	....	
do. north from 4" (P)	1¼	192	....	....	....	519
Woodworth ave., State st. to High	2	457	....	....	....	457
Worcester ave., east from Plainfield st.	6	....	....	....	811	
do. west from Fisk ave	4	....	....	....	52	863
Worcester st., I. O., Myrtle to Oak	6	....	....	689	....	
do. east from Oak	2	283	....	....	....	972
Worthington st., Symonds ave., to Main st	6	....	....	....	151	
do. Main to Chestnut	6	....	....	....	1,231	
do. Chestnut to Kibbe ave	6	....	2,740	....	....	4,122
do. west from Main	8	....	....	101	....	
do. Main to Dwight	8	....	....	795	....	
do. Dwight to near hose house	10	....	....	559	....	

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet.				Totals in Feet.
		Cement-Lined or Wrought-Iron.		Cast-Iron.		
		High Service	Low Service	High Service	Low Service	
Worthington st., near hose house to Federal st.	8	....	....	3,402	....	
do. west from Bowdoin (P)	2	204	....	....	....	
do. west from 2" (P)	1¼	82	....	....	....	
do. Bowdoin to St. James ave	12	....	....	1,654	....	6,797
Yale st., Dartmouth to Princeton	6	....	....	927	....	
do. north from Princeton	6	....		739	....	1,666
York st., west from Main	8	....	281	....	....	
do. west from wrought-iron	8	....	....	....	183	
do. west from 8"	6	....	....	....	497	961
Totals		123,363	75,557	338,043	115,896	652,859

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MAIN AND DISTRIBUTION PIPE.—CONCLUDED.

RECAPITULATION BY SIZES.

SIZES.	High Service.			Low Service.			Totals in Feet.
	Cement-Lined or Wrought Iron.	Cast-Iron.	Total.	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	
¾-inch	.....	.....	.....	180	.....	180	180
1-inch	902	.....	902	260	.....	260	1,162
1¼-inch	4,299	.....	4,299	1,667	.....	1,667	5,966
1½-inch	977	.....	977	196	.....	196	1,173
2-inch	20,424	.....	20,424	3,418	.....	3,418	23,842
3-inch	847	.....	847	7,271	1,181	8,452	9,299
4-inch	5,779	37,330	43,109	11,728	11,646	23,374	66,483
6-inch	15,588	136,430	152,018	21,108	78,204	99,307	251,325
8-inch	10,317	59,834	70,151	11,243	14,396	25,639	95,790
10-inch	.....	4,101	4,101	.....	972	972	5,073
12-inch	1,782	25,087	26,869	8,112	8,969	17,081	43,950
16-inch	9,874	13,649	23,523	6,014	518	6,532	30,055
20-inch	.....	1,706	1,706	4,365	10	4,375	6,081
24-inch	52,574	6,331	58,905	.....	.....	.....	58,905
30-inch	.....	40,019	40,019	.....	.....	.....	40,019
36-inch	.....	13,556	13,556	.....	.....	.....	13,556
Totals	123,363	338,043	461,406	75,557	115,896	191,453	652,859

RECAPITULATION BY MATERIAL.

MATERIAL.	High Service.		Low Service.		Totals	
	Feet.	Miles.	Feet.	Miles.	Feet.	Miles.
Cement-Lined or Wrought-Iron	123,363	23.37	75,557	14.31	198,920	37.68
Cast-Iron	338,043	64.02	115,896	21.95	453,939	85.97
Totals	461,406	87.39	191,453	36.26	652,859	123.65

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TWENTY-THIRD ANNUAL REPORT

Water Commissioners

SPRINGFIELD, MASS.

1896.

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City of Springfield.

TWENTY-THIRD ANNUAL REPORT

OF THE

Board of Water Commissioners

TO

THE CITY COUNCIL,

TOGETHER WITH THE

REPORTS OF THE REGISTRAR AND SUPERINTENDENT

FOR THE YEAR 1896.

SPRINGFIELD, MASS.:
CLARK W. BRYAN CO., CITY PRINTERS.
1897.

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COMPLIMENTS OF

WATER DEPARTMENT,

Springfield, Mass.

C. L. GOODHUE, Chairman.
H. S. DICKINSON, Mayor.
JAMES F. BIDWELL.
} Commissioners.

A. R. HATHAWAY, Registrar.
J. C. HANCOCK, Superintendent.

☞ Please Exchange.

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WATER COMMISSIONERS' REPORT.

WATER COMMISSIONERS' OFFICE,
43 BRIDGE STREET.

SPRINGFIELD, MASS., December 28, 1896.

To the City Council of the City of Springfield:

The Board of Water Commissioners have the honor to submit herewith their twenty-third annual report of the finances and condition of the Water Department for the year ending December 10, 1896, including the reports of the Water Registrar and Superintendent.

LUDLOW MAIN No. 2.

All bills and claims on account of this work have been settled and there is still to the credit of this account the sum of $427.27 which we recommend be placed to the credit of the sinking fund and the account closed.

The gross receipts from sale of bonds, premium, interest and sundry sales and refunds amounted to $364,243.95 and the total amount of approved bills and pay rolls paid by the City Treasurer to date has been $320,816.68, thus showing that the entire work has been fully completed for $43,427.27 less than the amount provided therefor.

In accordance with our recommendation $43,000.00 of this unexpended balance has been already transferred to the water works sinking fund.

The total *net cost* of the main to date, chargeable to construction account, is $317,784.28.

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CONSTRUCTION.

The total amount charged to this account during 1896 (exclusive of Ludlow Main No. 2) is $22,536.57, including $21,018.62 for extending the distribution mains 23,521 feet, making a present total of 127.80+ miles in the system.

The above extensions were nearly all made in the suburbs of the city and largely in new streets. This work will be required in future so long as the city continues to grow, and we consider such expenditure a judicious one, increasing, as it does, the taxable value of the property as well as the fire protection in the outlying districts.

STATEMENT.

Extensions in	1890,	were	9,962	feet,	cost	$7,833 06
"	" 1891,	"	14,927	"	"	10,396 00
"	" 1892,	"	24,853	"	"	16,253 21
"	" 1893,	"	25,079	"	"	17,090 71
"	" 1894,	"	20,280	"	"	13,491 16
"	" 1895,	"	32,368	"	"	25,302 47
"	" 1896,	"	23,521	"	"	21,018 62

MAINTENANCE.

The total amount charged to this account during the year is $124,660.15, as follows: —

GENERAL MAINTENANCE.

Management and repairs, (operating, etc.,)	$21,022 95	
Interest on bonds,	96,000 00	
Taxes on reservoir property,	217 13	
		$117,240 08

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SPECIAL MAINTENANCE.

Engineering (mapping), . .	$395 31	
Damages, ...	18 75	
Legal expense, . . .	601 05	
Permanent pavement expense (examining, protecting and renewing mains, gates, services, etc.),	707 80	
Pumping station, Chapin pond (operating), . . .	1,436 76	
Distribution mains—renewals, .	4,260 40	
		7,420 07
Total, ...		$124,660 15

Of the above it will be seen that the cost for the permanent pavement expense, the pumping expense at Chapin pond and the renewing of old distribution mains, constitute the principal part of *special maintenance,* amounting to $6,404.96 of this unusual burden on the department; notwithstanding which we are able to make a good financial showing.

The banks of the Van Horn reservoir have been thoroughly cleaned and several hundred loads of silt and decomposed matter removed which should materially improve the quality of the water.

The number of service connections added to the system during the past year is 398, making the total number recorded to date 8,298.

The following summary gives the number added each year since 1884:

In 1885, . .	224	new connections.
In 1886, . .	282	"
In 1887, . .	300	"
In 1888, . .	328	"

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In 1889,	. .	350 new connections.
In 1890,	. .	273 "
In 1891,	. .	411 "
In 1892,	. .	452 "
In 1893,	. .	367 "
In 1894,	. .	482 "
In 1895,	. .	418 "
In 1896,	. .	398 "

FINANCIAL.

The cash receipts from water rates, services, repairs, sales, etc., amount to $213,522.14. The following statement shows the annual increase since 1885:

YEAR.	CASH RECEIPTS.	INCREASE.
1885,	$99,431 00	. . .
1886,	106,875 33	$7,444 33
1887,	117,196 84	10,321 51
1888,	129,463 87	12,267 03
1889,	138,457 42	8,993 55
1890,	146,860 22	8,402 80
1891,	155,447 90	8,587 68
1892,	171,588 74	16,140 84
1893,	183,341 69	11,752 95
1894,	187,200 00	3,858 31
1895,	211,869 55	24,669 55
1896,	213,522 14	1,652 59

As is explained and illustrated in the Registrar's report to the Board, the small increase for 1896 of $1,652.59 is *not the increase in growth* but simply the *difference* between the *totals*, and as the total of 1895 was an abnormal amount by about $10,000 or $12,000 (as estimated), for the reasons mentioned in last year's

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report, hence the normal or real growth during the past year would be represented by the small increase shown *plus* this estimated amount.

Although, during the past season, we have had a larger maintenance account than usual, the receipts have been sufficient to meet all charges for interest on the bonded debt, all cost of maintenance and the laying of about 24,000 feet of new distribution mains, together with all other charges and expenses of every nature, and yet leave a balance of $50,476.30 for the sinking fund.

This should be a very gratifying result to our taxpayers. Our bonded indebtedness is being reduced at the rate of $25,000 each year by the payment of a like amount of the seven per cent. bonds, and our sinking fund is rapidly increasing, so that we are working at both ends of our debt.

While our citizens doubtless appreciate the many conveniences from our water supply, but few probably realize the future value of the supply as a financial resource.

The following statements show the net total bonded indebtedness of the city on account of the water works and the condition of the sinking fund for the redemption of the same.

BONDED DEBT.

7% water bonds falling due as follows:	
$25,000 each year from April 1, 1894 till April 1, 1902 (issued in 1873 and 1874), . . .	$225,000 00
$775,000 falling due April 1, 1903 (issued in 1873 and 1874), . .	775,000 00
Amount carried forward,	$1,000,000 00

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Amount brought forward,		$1,000,000 00	
Less payments as follows:			
April 1, 1894, .	$25,000 00		
April 1, 1895, .	25,000 00		
April 1, 1896, .	25,000 00	75,000 00	
			$925,000 00
6% water bonds, all due April 1, 1905 (issued in 1875), . . .			200,000 00
3½% water bonds, all due October 1, 1920 (issued in 1890), . .			125,000 00
4% water bonds, falling due as follows:			
April 1, 1913 (issued in 1893,		$200,000 00	
October 1, 1923 (issued in 1893),		150,000 00	
			350,000 00
Total, . . .			$1,600,000 00

SINKING FUND.

Balance in hands of Sinking Fund Commissioners, December 10, 1895,		$117,638 97
Balance transferred from water works receipts of 1895, . . .	$41,402 76	
Transferred from Ludlow Main No. 2 fund, 1896, ...	3,000 00	
Interest on investments, 1896, .	5,993 47	
		50,396 23
Balance in hands of Sinking Fund Commissioners, December 10, 1896,		$168,035 20
Balance available from water works receipts of 1896, . . .		50,476 30
Total amount available December 10, 1896, ...		$218,511 50

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LUDLOW RESERVOIR.

The water of this reservoir was so filled with algæ during two months of the hot season as to render it unfit for use.

It was then shut off from the mains and the deficiency, not supplied by the canal, was pumped from Chapin pond.

How to prevent this growth and render the water of this reservoir suitable for all seasons of the year is a very important problem, and is receiving much attention and study from this Board.

As yet we are not ready to advocate any plan or device to remedy the evil. The Commissioners early in the season laid the matter before the State Board of Health, which has had its experts make personal examinations at various times during the year and twice a month has made an analysis of the water, but as yet it has not reported as to what it may advise.

Your Commissioners will probably early in the spring make a special report to your honorable body in relation to this matter, embodying therein the report expected from the State Board of Health.

RECOMMENDATIONS.

We would again recommend that "In view of the fact that much inconvenience has arisen in laying new pipes in the streets, for want of knowledge of location of pipes already laid for steam, gas, telephone and electric light wires, sewers, etc., an ordinance be passed that no pipes or conduits of any kind, or for any purpose, be allowed to be placed in any street until a location therefor be given in writing by the City Engineer, who should keep a record thereof."

DETAILS.

The condition of the finances and work of the department for the year, all in detail, will be shown in the reports of the Water

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Registrar and Superintendent to the Board, which reports are hereto annexed and made a part of this report to the City Council.

Respectfully submitted,

C. L. GOODHUE,
J. F. BIDWELL,
NEWRIE D. WINTER,
Board of Water Commissioners.

BOARD OF ALDERMEN, December 28, 1896.

Accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 28, 1896.

Read, concurred.

WM. E. GILBERT, *Clerk.*

Approved, December 29, 1896.

NEWRIE D. WINTER, *Mayor.*

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WATER REGISTRAR'S REPORT.

To the Board of Water Commissioners of the City of Springfield:

GENTLEMEN:—The following report of the Water Registrar for the fiscal year ending December 10, 1896, is herewith respectfully presented:—

As heretofore, for convenient reference I have divided the following statements into three principal divisions, viz:—

1.—General Financial.
2.—Detail Financial.
3.—Miscellaneous.

GENERAL FINANCIAL STATEMENTS.

CASH ACCOUNT.

(*Exclusive of Ludlow Main No. 2 Fund.*)

To collections paid City Treasurer by City Collector, ...	$213,522 14	
To amounts uncalled for on pay rolls, .	11 66	
		$213,533 80
By approved bills and pay rolls paid by City Treasurer, ...	$67,057 50	
By interest on water bonds paid by City Treasurer, ...	96,000 00	
By balance transferred to sinking fund, by City Treasurer, . . .	50,476 30	
		$213,533 80

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LUDLOW MAIN NO. 2 FUND.

To balance in hands of City Treasurer, December 10, 1895, . . .		$3,723 26
By approved bills paid by City Treasurer, 1896, ...	$295 99	
By amount transferred to sinking fund, per order of City Council, . .	3,000 00	
		3,295 99
To balance in hands of City Treasurer, December 10, 1896,		$427 27

The net cost of construction and maintenance during the year has been charged to the following accounts:—

CONSTRUCTION.

(*Exclusive of Ludlow Main No. 2.*)

Distribution mains—extensions, . .	$21,018 62	
Hydrant extensions, . . .	497 69	
Standpipes—for street sprinkling, . .	251 59	
Belchertown reservoirs, . . .	26 61	
Services—account permanent pavements (held as property account until paid for by abutters), . . .	742 06	
Total, ...		$22,536 57

MAINTENANCE.

General:—

Management and repairs, . .	$21,022 95	
Interest, coupons, . . .	96,000 00	
Taxes, ...	217 13	
		$117,240 08

Special:—

Engineering (mapping), . .	$395 31	
Damages, ...	18 75	
Legal expense, ...	601 05	
Permanent pavement account (expense of examining, protecting and renewing mains, gates, services, etc.), .	707 80	
Amounts carried forward,	$1,722 91	$117,240 08

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Amounts brought forward,	$1,722 91	$117,240 08
Pumping station, Chapin pond—operating, ...	1,436 76	
Distribution mains—renewals, .	4,260 40	
		7,420 07
Total, ...		$124,660 15

LUDLOW MAIN NO. 2.

Damages and right of way, . . .	$150 00	
Gates and valves, ...	65 48	
Pig lead for joints, ...	6 83	
Packing and miscellaneous material, .	92	
Teaming material, ...	72 76	
Total, ...		$295 99

COST OF WATER WORKS.

Balance of *old* "*Construction*" *account* in ledger to December 10, 1893 (in future to be analyzed and separated, so far as possible, into its component construction and property accounts), . .	$1,656,562 98	
Aggregate of *new construction and property accounts*, as classified in ledger and annual reports for 1894, 1895 and 1896,	65,031 85	
Total cost (exclusive of "*Ludlow Main No.* 2") to December 10, 1896, .		$1,721,594 83
Net cost of *Ludlow Main No.* 2 to December 10, 1895, (shown in detail in 1895 report), ...	$317,488 29	
Approved bills paid by City Treasurer in 1896 (as shown elsewhere), . .	295 99	
Net cost of *Ludlow Main No.* 2 to December 10, 1896, ...		317,784 28
Net total cost of water works to December 10, 1896, ...		$2,039,379 11

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BONDED DEBT.

(As per books of City Treasurer.)

925 water bonds bearing interest at 7 per cent. (par value $1,000 each), issued in 1873 and 1874, and falling due as follow: $25,000 payable each year from April 1, 1897, to April 1, 1902,	$150,000 00	
$775,000, all payable April 1, 1903,	775,000 00	
		$925,000 00
200 water bonds bearing interest at 6 per cent. (par value $1,000 each), issued in 1875 and all due April 1, 1905,		200,000 00
125 water bonds bearing interest at 3½ per cent. (par value $1,000 each), issued in 1890 for Ludlow reservoir improvement, and all due October 1, 1920,		125,000 00
350 water bonds bearing interest at 4 per cent. (par value $1,000 each), issued in 1893 for Ludlow main No. 2, and due as follows: $200,000 payable April 1, 1913,	$200,000 00	
$150,000 payable October 2, 1923,	150,000 00	
		350,000 00
Total account water works, December 10, 1896,		$1,600,000 00

SINKING FUND.

Balance in hand of sinking fund commissioners, December 10, 1895,		$117,638 97
Balance transferred from water works receipts of 1895,	$41,402 76	
Transferred from Ludlow main No. 2 fund, 1896,	3,000 00	
Interest on investments, 1896,	5,993 47	
		50,396 23
Balance in hands of sinking fund commissioners, December 10, 1896,		$168,035 20
Balance available from water works receipts of 1896,		50,476 30
Total amount available, December 10, 1896,		$218,511 50

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INVENTORY.

The value of stock, tools, office furnishings, etc., on hand December, 1, 1896 (as per report of the Superintendent), is distributed to the following accounts:—

Cast-iron pipe stock, . . .	$3,889 36	
Wrought-iron pipe stock, . . .	1,556 43	
Meter stock, ...	446 45	
Stores and supplies, . . .	1,310 13	
Tools and machines, . . .	2,892 23	
Office furniture and fixtures, . .	1,035 88	
Teams, ...	1,017 10	
Total, ...		$12,147 58

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DETAIL FINANCIAL STATEMENTS.

RECEIPTS.

The following statements of the collection accounts show the analysis of the cash receipts of the department.

BILLS CHARGED COLLECTOR.

COLLECTION ACCOUNTS.	Uncollected Dec. 10, 1895.	Charged 1896.	Totals.
Water rates—annual, . . .	$822 17	$123,261 71	$124,083 88
Water rates—meter, . . .	27 11	55,867 88	55.894 99
Water rates—hose and fountains,	50 00	7,565 50	7,615 50
Water rates—builders, . .	122 00	1,594 85	1,716 85
Water rates—sprinkling streets,	. . . .	4,975 58	4,975 58
Water rates—miscellaneous, .	52 62	803 76	856 38
Services and repairs, . . .	1,319 95	15,180 03	16,499 98
Meters and repairs, . . .	124 89	2,767 76	2,892 65
Fines and penalties, . . .	2 00	72 00	74 00
Off and on, ...	. . . .	34 42	34 42
Seals, ...	. . . .	1 00	1 00
Miscellaneous accts. (sales, etc.),	813 29	*6,361 76	7,175 05
Totals charged, 1896, . .	$3,334 03	$218,486 25	$221,820 28

*The amount charged for "miscellaneous accounts" during 1896, includes the following :—

For rentals of land, etc., ...	$1,411 00
For bonus from real estate owners for extension of water mains, ...	1,000 00
For agreed proportion of mutual office expense during 1895, from certain city departments, at 43 Bridge street, ...	348 87
For use of horse by sewer department in flushing sewers,	494 42
For shop sales of material, etc., ...	3,107 47
Total, ...	$6,361 76

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AMOUNTS ABATED TO COLLECTOR.

COLLECTION ACCOUNTS.	Amounts.	Total.
Water rates—annual,	$3,780 88	
Water rates—meter,	283 79	
Water rates—hose and fountains,	98 50	
Water rates—builders,	23 00	
Water rates—miscellaneous,	13 28	
Services and repairs,	155 78	
Meters and repairs,	5 06	
Fines and penalties,	4 00	
Off and on,	75	
Miscellaneous accounts,	72 44	
Total abated, 1896,	. . . .	$4,437 48

AMOUNTS UNCOLLECTED.

COLLECTION ACCOUNTS.	Amounts.	Total.
Water rates—annual,	$711 71	
Water rates—meter,	388 55	
Water rates—hose and fountains,	65 00	
Water rates—builders,	277 70	
Water rates—miscellaneous,	127 02	
Services and repairs,	1,672 47	
Meters and repairs,	225 01	
Off and on,	3 72	
Miscellaneous accounts,	389 48	
Total uncollected, 1896,	. . . .	$3,860 66

AMOUNTS COLLECTED AND PAID CITY TREASURER.

COLLECTION ACCOUNTS.	Amounts.	Amounts.	Totals.
Water rates—annual,	$119,591 29		
Water rates—meter,	55,222 65		
Water rates—hose and fountains	7,452 00		
Water rates—builders,	1,416 15		
Water rates—sprinkling streets	4,975 58		
Water rates—miscellaneous,	716 08		
Total for water,	. . . .	$189,373 75	
Services and repairs,	$14,671 73		
Meters and repairs,	2,662 58		
Fines and penalties,	70 00		
Off and on,	29 95		
Seals,	1 00		
Miscellaneous accounts,	6,713 13		
Total for material, labor, etc.,	. . . .	24,148 39	
Total collected, 1896,			$213,522 14

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RECAPITULATION.

Total collected, ...	$213,522 14
Total uncollected, . . .	3,860 66
Total abated, ...	4,437 48
Total charged, . . .	$221,820 28

The differences in the collection accounts of 1895 and 1896 are shown as follows: —

COMPARISON: 1895-1896.

	1895.	1896.	DIFFERENCE. 1896.
Amounts collected,	$211,869 55	$213,522 14	+$1,652 59
Amounts uncollected,	3,334 03	3,860 66	+526 63
Amounts abated,	4,833 00	4,437 48	—395 52
Amounts charged,	$220,036 58	$221,820 28	+$1,783 70

INCREASE IN RECEIPTS SINCE 1884.

YEAR.	CASH RECEIPTS.	INCREASE.
1885 . .	$ 99,431 00 . .	. . . .
1886 . .	106,875 33 . .	$ 7,444 33
1887 . .	117,196 84 . .	10,321 51
1888 . .	129,463 87 . .	12,267 03
1889 . .	138,457 42 . .	8,993 55
1890 . .	146,860 22 . .	8,402 80
1891 . .	155,447 90 . .	8,587 68
1892 . .	171,588 74 . .	16,140 84
1893 . .	183,341 69 . .	11,752 95
1894 . .	187,200 00 . .	3,858 31
1895 . .	211,869 55 . .	24,669 55
1896 . .	213,522 14 . .	1,652 59

The above difference of $1,652.59 over the total cash receipts of last year, is the smallest increase in any year shown in the above list, and at first thought appears to indicate a serious falling off in the growth of this branch of the department.

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But when we consider the fact that the *total amount*, (as well as the *corresponding increase*) of the preceding year was an *abnormal amount*, due to unusual causes in that year alone (as stated in my last report), and also the fact that this total is made the *sole basis* in determining the *increase* during the year passed, then it must be admitted that such increase *does not necessarily* show the *real growth* in this direction.

To illustrate; let it be assumed that one half the increase shown in 1895 over 1894 (or the sum of $12,000) represented rates for fixtures, etc. added during the *two years previous* (as stated), which, if such additions had been *then* reported or found, would naturally have appeared in the totals and increase of those years, where it really might have belonged. Then the unusually large total of 1895 would have been *decreased* by just this amount and likewise the unusually small increase shown for 1896 would be *increased* by just so much.

It is my belief that the above assumption represents the *facts* in the growth of the cash receipts during the years mentioned, as nearly as it is possible to determine, and in support of this belief would state that the *average annual increase* in cash receipts during the last *eleven years* is $10,371.92.

INCOME:—VALUE ACCOUNTS.

For remarks concerning this class of the accounts reference may be had to my reports of 1894 and 1895. The amounts entered on the ledger during 1896 are shown as follows:—

USE OF WATER BY THE CITY.
(Charged and credited as shown below.)

Almshouse and annexed buildings, .		$314 00
City hall, ...		94 00
Fire department (buildings), . .	$625 00	
Fire department (hydrant service), 841 fire hydrants at $20 (amount fixed by city ordinance).	16,820 00	
		$17,445 00
Amount carried forward,		$17,853 00

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Amount brought forward,		$17,853 00
Highway department (city yards, etc.,) .		47 00
Parks (fountains, $400; hose, $85), .		485 00
Police department (buildings), . .		74 50
Scavenger department and Wayfarers' lodge, ...		74 00
School department (buildings), . .		2,760 45
Sewer department (building purposes), .	$6 80	
Sewer department (flushing), (amount fixed by city ordinance), . . .	500 00	
		$506 80
Watering tanks and drinking fountains, 10 at $50, ...		500 00
Amount charged (on ledger only) to "City of Springfield—special account," .		$22,300 75
(*NOTE: Called a resource account in partial offset to liability accounts of City Bonds and appropriations.*)		
Water department (buildings), amount charged (on ledger only) to "Expense,"		85 00
Total credited (on ledger as gain account) to "Water rates—city use," . .		$22,385 75

RENTS OF REAL ESTATE.

(*Charged and credited as shown below.*)

Superintendent's house, No. 37 Bridge street (charged to "Salaries"), .	$300 00	
Hostler's and driver's house, No. 49 Bridge street (charged to "Teams"), . .	300 00	
Keeper's house, Ludlow reservoir (charged to "Care and repairs—Ludlow reservoir"), ...	180 00	
Keeper's house, Van Horn reservoir (charged to "Care and repairs—Van Horn reservoir"), . . .	100 00	
Mowing land at Ludlow;—paid for by hay delivered; (charged to "Teams"), .	35 00	
Total credited to "Rents," . .		$915 00
Total income:—value accounts, . .		$23,300 75

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Regarding the value of water used by the city in its corporate capacity, I can do no less than to continue to reiterate my recommendation of each year that such *value* appear among the *cash receipts* of the Water Department, instead of as an *annual credit* in its *report,* and that the present value of certain portions of such use be changed, together with the special ordinance fixing these values, as set forth in my report for the preceding year.

EXPENDITURES.

The following statements show the distribution of the *net cost* of the principal construction and maintenance accounts.

CONSTRUCTION.

DISTRIBUTION MAINS—EXTENSIONS.

LOCALITY.	PIPE.	SIZE.	COST.
Armory street,	39 feet,	1 inch,	$3 12
Atwater terrace,	504 "	6 "	338 12
Beechwood avenue,	276 "	6 "	206 48
Belmont avenue (extension to Kenwood park),	465 "	8 "	313 80
Belmont avenue (at Sumner avenue, N. W. & S. E.),	34 "	8 "	65 34
Belmont avenue (extension from Kenwood park),	363 "	8 "	265 89
Beverly street,	252 "	6 "	171 33
Birnie avenue,	520 "	8 "	421 64
Brace street,	360 "	6 "	202 77
Central street avenue,	292 "	6 "	220 27
Cleveland street,	1,094 "	6 "	695 87
Cliftwood avenue,	449 "	6 "	300 98
Chestnut street (part cost),	3,185 " 55 "	16 " 12 "	3,520 60
Cottage avenue, (partly Melrose street, later),	1,036 "	6 "	659 87
Dickinson street,	591 "	6 "	304 64
Amount carried forward,			$7,690 72

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LOCALITY.	PIPE.	SIZE.	COST.
Amount brought forward, . .			$7,690 72
Eastern avenue, ...	225 feet,	8 inch,	212 06
Foster court, ...	762 "	6 "	469 76
Granada terrace, ...	945 "	6 "	570 08
Grove street, ...	388 "	6 "	197 57
Hayden street, ...	1,095 "	4 "	533 37
Hillman street (part cost), . .	466 "	8 "	128 13
Johnson street, ...	1,769 "	6 "	919 56
Kenwood park, ...	773 "	6 "	574 77
Lenox street, ...	447 "	6 "	287 51
Liberty street (part cost), . .	1,950 "	8 "	1,396 44
Maple avenue, ...	392 "	6 "	316 30
Market street, ...	72 " 226 "	6 " 6 "	247 07
Oak street, Indian Orchard, . .	83 "	2 "	31 64
Oak Grove avenue, ...	388 "	6 "	331 50
Pearl street, ...	296 "	6 "	231 62
Randall avenue, ...	212 "	4 "	129 43
Rutledge avenue, ...	204 "	6 "	117 08
Sanford street, ...	132 " 79 "	6 " 6 "	196 96
Seymour street, ...	805 "	6 "	556 12
Sullivan street, ...	380 "	6 "	277 72
Sumner avenue, ...	3,278 "	8 "	2,509 44
Taylor street, ...	383 "	8 "	494 33
Van Horn reservoirs (extending high service feeder), . . .	36 "	6 "	18 11
Warner place, ...	797 "	6 "	510 83
Wason avenue, ...	93 "	8 "	97 51
Welcome place, ...	252 "	6 "	191 23
Wendell avenue, ...	160 "	6 "	166 32
Wilbraham avenue, ...	28 " 192 "	6 " 8 "	240 92
Windsor avenue, ...	485 "	1½ "	102 90
Woodside avenue, ...	449 "	6 "	315 18
Worthington street, ...	1,270 "	8 "	956 44
Total, ...			*$21,018 62

*In making some of the above extensions there was received, from parties directly interested in the same, the total sum of $1,000 as "Bonus," which sum is included in "Miscellaneous Accounts" charged and paid to the Collector as shown under "Receipts."

Deducting this amount from the total cost of extensions given, the balance of $20,018.62 represents the actual expenditure from the ordinary receipts of the department.

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HYDRANT EXTENSION.

(Not charged to streets.)

Setting new hydrants.

LOCALITY.	COST.	TOTAL.
Armory street, north of B. & A. R. R., (6″,)	$62 77	
Hampden street, S. E. cor. Chestnut, Indian Orchard, (4″,)	52 86	
Main street, Indian Orchard (in front of Trombley's), (6″,)	57 62	
Main street, midway Oak and Myrtle, Indian Orchard, (6″,)	134 47	
Worcester street, Indian Orchard (in front of engine house), (6″,)	76 92	
Teaming, account of Indian Orchard hydrants,	12 63	
		$397 27
Replacing 4 inch.		
Chestnut street, N. E. cor. State, (6″,)	$20 00	
Court street, N. W. cor. Main, (6″,)	18 49	
Elm street, S. W. cor. Main, (6″,)	18 49	
Pine street, opposite No. 239, (5″,)	13 14	
Walker street, (6″,)	20 00	
		$90 12
Setting gates for old hydrants.		
Dwight street, at Bridge, (4″)		10 30
Total,		$497 69

STANDPIPES—FOR STREET SPRINKLING.

Belmont avenue, at Euclid,	$25 92	
Cedar street, at Main, Indian Orchard,	37 69	
Euclid avenue, at Dickinson street,	25 71	
Fort Pleasant avenue (nearly opposite Warner place),	28 49	
Myrtle street, at Hampshire, Indian Orchard,	35 98	
Sumner avenue, opposite Fort Pleasant,	36 51	
Wilbraham road, at Northampton avenue,	27 27	
Worcester street, at Oak, Indian Orchard,	34 02	
Total,		$251 59

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MAINTENANCE.

MANAGEMENT AND REPAIRS.

Salaries (superintendence and accounting),	$7,703 15	
Inspection (salaries and expenses),	2,832 82	
Teams (balance undistributed),	367 14	
Tools and machines (net loss),	562 22	
Office furniture and fixtures (net loss),	187 52	
Stationery and printing,	373 06	
Office account (janitor, supplies, etc.),	501 43	
Heat and light,	320 38	
Expense account,	367 51	
Telephone service,	150 80	
Off and on (services),	224 50	
Refunds,	19 80	
Expense, city departments,	135 90	
Petty maintenance,	717 47	
		$14,463 70
Care and repairs, Van Horn reservoirs,	$728 81	
" " Ludlow reservoir,	1,003 86	
" " Belchertown reservoirs,	707 72	
" " Chapin pond, " " Emergency supply,	294 95	
" " Ludlow main No. 1 (24 inch),	763 35	
" " Ludlow main No. 2 (36 inch, etc.),	165 37	
" " Distribution mains, cast iron,	347 11	
" " Distribution mains, wrought iron,	218 59	
" " Gates and valves,	290 67	
" " Hydrants,	559 14	
" " Standpipes,	191 84	
" " Drinking fountains,	16 89	
" " Meters (net),	45 65	
" " Services,	968 85	
" " Private telephone lines,	55 61	
" " Indian Leap Bridge,	152 64	
		$6,511 05
Repairs, No. 37 Bridge street,	$6 15	
" No. 43 Bridge street,	24 18	
" Stable, Bridge street,	7 55	
" No. 49 Bridge street,	10 17	
" House, Van Horn reservoir,	15	
		48 20
Total,		$21,022 95

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INTEREST ON BONDS.

$950,000 at 7 per cent., 6 months,	$33,250 00*	
$925,000 at 7 per cent., 6 months,	32,375 00*	
$200,000 at 6 per cent., 12 months,	12,000 00	
$125,000 at 2½ per cent., 12 months,	4,375 00	
$350,000 at 4 per cent., 12 months,	14,000 00	
Total,		$96,000 00

TAXES.

On reservoir property at Belchertown (per acts of 1890, chapter 303),	$55 03	
On reservoir property at Ludlow (per acts of 1893, chapter 352),	162 10	
Total,		$217 13

"PERMANENT PAVEMENT" ACCOUNT.

(Cost of examination and preparation of water pipe system for special street pavements.)

Dwight street, State to Lyman,	$240 73
Harrison avenue, Main to Dwight,	121 40
Main street, William to Marble,	187 96
Worthington street, Main to Dwight,	157 71
Total,	$707 80

PUMPING STATION, CHAPIN POND:—OPERATING.

Fuel, supplies, etc.,	$967 01
Pay roll labor, engineer, etc.,	469 75
Total,	$1,436 76

DISTRIBUTION MAINS—RENEWALS.

LOCALITY.	PIPE.	SIZE.	COST.
Chestnut street,	3,185 feet, 55 "	16 inch, 12 "	†$3,517 69
Dwight street,	286 "	6 "	256 06
Hillman street,	466 "	8 "	†450 00
Liberty street,	1,950 "	8 "	†25 38
Lyman street,	11 "	6 "	11 27
Total,			$4,260 40

*Twenty-five $1,000 7 per cent. bonds, due and paid April 1, 1896.
†Part cost only:—balance changed to "Extensions."

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MISCELLANEOUS STATEMENTS.

FINES AND PENALTIES.

The following figures show the number of fines and penalties (of $2 each) due, charged, collected, abated and uncollected during 1896, the number charged being also the number of premises ordered shut off to enforce payment of same.

DIVISIONS.	For Unp'd Bills.		For Waste unchecked.	Total Number.
	Due Before 1896.	Due in 1896.		
Number uncollected, 1895 (forward), .	1	0	0	1
Number charged, 1896, ...	4	32	0	36
Total charged collector, 1896, . .	5	32	0	37
Number collected, 1896, ...	4	31	0	35
Number abated, 1896, ...	1	1	0	2
Number uncollected, 1896 (forward), .	0	0	0	0
Total, as above, ...	5	32	0	37

METERS AND INDICATORS.

Total number in use October 1, 1895, ...		2,207
Number of meters (on service pipes), added (net), .	83	
Number of indicators (on elevators and motors) added (net), ...	9	
Net total number added to October 1, 1896, .		92
Total number in use October 1, 1896 (see table of same following), ...		2,299

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Total quantity of metered water charged during 1896,	**372,253,326 gallons.**
Average quantity per meter or indicator,	**161,919+ "**
Total amount charged during 1896,	**$55,867 88**
Average amount per meter or indicator,	**$24 30+**
Average rate charged per 1,000 gallons,	**15+ cents.**

TABLE OF METERS AND INDICATORS.

(*To October* 1, 1896.)

Kind and Size.	½"	⅝"	¾"	1"	1½"	2"	3"	4"	6"	Indicators.	Totals.
Meters.											
Ball & Fitts, Piston	....	....	2	....	....	....	....	....	....	....	2
Crown	783	....	541	58	12	14	1	1	...	....	1,410
Desper	6	....	4	....	....	1	....	...	....	....	11
Empire	....	....	....	3	....	...	....	....	....	...	3
*Hersey (rotary)	....	240	306	24	12	8	....	5	1	....	596
*Hersey (disc)	....	15	10	....	1	....	....	....	....	....	26
Nash	4	....	....	...	....	....	....	....	....	....	4
Thomson	....	7	8	2	1	....	....	....	....	....	18
Undine (and Hartford)	5	....	4	1	....	....	....	....	....	....	10
Union Duplex	...	2	1	....	...	....	....	....	....	....	3
Union Rotary	....	58	19	2	1	3	....	....	....	....	83
Worthington	....	11	6	....	3	2	....	....	....	....	22
											2,188
Indicators.											
Desper (for elevators)	....	....	....	....	....	....	....	....	...	82	
Friction (" ")	....	....	....	....	....	....	....	....	...	4	
Graves (" ")	....	....	....	....	....	....	....	....	...	7	
Ross (" motors)	....	....	....	....	....	....	....	....	...	2	111
Whitney (" ")	....	...	....	....	....	....	....	...	..	7	
Whittier (" elevators)	....	...	....	....	....	....	....	...	....	7	
Worthington (" ")	....	....	....	....	....	....	....	...	....	2	
Totals	798	333	901	90	30	28	1	6	1	111	2,299

INSPECTION.

As stated in previous reports, this work constitutes an endless, though very necessary, round of routine, in which the tangible results accomplished make but a small showing to the casual observer.

Yet the knowledge that such constant oversight over the use of water and condition of fixtures is even attempted, must, of

*Totals of "Hersey" meters in 1895 report included some "Hersey Disc" meters now included in separate totals for the "Disc."

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itself, have some wholesome effect upon a certain would-be-lawless element to be found among the water takers of any community.

If for no other reason than this, the "house-to-house" inspection should be kept up each year so far as the time left from the other work will allow.

Most water departments, I believe, rely solely on this inspection for the latest ownership of property, besides the number of fixtures supplied, etc., but in this city, instead of holding to such records, (*obtained once* during the year) until the next year's list is obtained, (during which period many changes invariably occur), the work is divided and arranged so that all real estate transfers are soon investigated and, as nearly as possible, kept up to date on our books.

This is found to be of great service in billing, sending notices, etc., as all bills and notices are made in the names of the property owners. Many such changes in ownership are, of course, also obtained through the City Collector.

It will be seen by the statement following, that more time has been found for the "house-to-house" inspection in 1896 than during the preceding year, less demands having been made on the inspectors for their assistance in office work than formerly.

CLASSIFICATION.	Inspectors.			Total no. of days.
	No. 1.	No. 2.	No. 3	
	Days.	Days.	Days.	
Reading and inspection of meters	95	155	154	404
Turning on and off $8 hose	.....	5	.....	5
Inspection of hose use—general	.....	23	10	33
General or "house-to-house" inspection	12	73	68	153
Semi-annual and monthly inspection (billing)	68	.....	.....	68
Monthly inspection of vacancies reported	.....	.....	40	40
Special inspection (leaks, bills and collections)	.....	15	10	25
Special inspection (real estate sales)	24	.....	.....	24
Office work	88	20	12	120
Sickness, etc.	7	3	.....	10
Total (294 working days in the year)	294	294	294	882

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The total number of leaking fixtures discovered, recorded and corrected in 1896 is 629, an increase of 124 over the similar total of the previous year.

Of this number, 398 were leaking ball-cocks at water-closet tanks, or over sixty three per cent. of the total!

Taking into consideration the general growth of the department's work and the additional time required each year in looking after and reading the increasing number of meters as well, I believe as much has been accomplished during the past year by our present inspection force as could be expected.

With the addition (as suggested in my last report) of a fourth man who could devote most of his time to the somewhat neglected "house-to-house" inspection, this particular line of work could then receive the attention it requires,—*until such time as the constantly increasing growth of the work repeats the present conditions.*

Such inspection, at its best, can be but temporary and unsatisfactory, and *does not actually control.*

The most efficient and at the same time the only *continuous* inspection is that obtained from a reliable meter placed on every service pipe connected with the water system.

For some time it has seemed to me desirable that some way be devised whereby the surreptitious use of lawn hose during the *summer nights* might be detected and controlled or, at least, partially controlled.

It is believed that, not only many of those who admit to the inspectors the use of hose during the allotted hours of the day, but others, who deny such use, prop up the hose or set the whirlers on their premises *after dark* and allow the water to run all night!

In my opinion such useless waste should not be allowed in any case, whether the supply is furnished by gravity or by pumping.

Certainly some means should be taken to oblige those, who

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attempt such use during the night and deny the same, to pay at least the nominal rate established by the board for the legitimate use of lawn and garden hose.

As our inspectors are on duty during the day it is not to be expected that they serve through the night also.

In the rules and regulations adopted by the City of Hartford for the management of its water works, I notice the following:—

"Rule 22.—It shall be the duty of the police of the City of Hartford to exercise a vigilant supervision over the use of the water, to prevent all unnecessary profusion of flow and waste; and for this purpose they shall have the right of free access, at all proper times, to any premises where the water is used, and shall report all cases of waste and of profuse and excessive use, which shall come to their knowledge, to the commissioners. They shall also report to the Police Court, for prosecution, all violations of the regulations and laws of the Board, or of the city, relating to the water works of the city, which come within the jurisdiction of said Police Court."

If the *night patrolmen* in this city could be instructed to note and report even the use and abuse of the hose privilege referred to, I am confident something might be accomplished towards diminishing the number of such violations.

STATISTICS.

The usual classification of consumers supplied at date with a summary of statistics for the year, as recommended by the New England Water Works Association, are hereto annexed.

Respectfully submitted,

A. R. HATHAWAY, *Water Registrar.*

SPRINGFIELD, MASS., December 28, 1896.

BOARD OF WATER COMMISSIONERS, December 28, 1896.

Accepted and ordered made a part of the report of the board to the City Council.

A. R. HATHAWAY, *Clerk.*

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COMPARATIVE STATEMENT,

SHOWING THE CLASSES OF CONSUMERS AND THE NUMBER OF EACH CLASS SUPPLIED BY THE AQUEDUCT COMPANY IN 1864, AND BY THE CITY IN 1874, 1880, 1890, 1895, 1896.

CLASSES.	1864.	1874.	1880.	1890.	1895.	1896.
Bakeries,	. .	. .	8	15	27	29
Banks,	2	9	12	15	16	16
Barber Shops,	2	14	30	30	55	63
Baths,	. .	439	829	2,654	5,856	6,237
Beer Pumps,	. .	. .	. .	. .	50	54
Boarding Houses,	. .	33	55	97	101	113
Breweries,	. .	. .	2	2	2	2
Cemeteries,	. .	. .	1	5	6	6
Churches (from 1895),	. .	. .	. .	. .	34	35
Churches, Halls and Public Buildings (to 1895),	2	12	14	60	. .	. .
Dyehouses and Bleacheries,	2	2	3	3	4	5
Elevators,	. .	. .	15	96	121	131
Families,	1,288	3,637	4,893	8,511	11,781	12,438
Fish Tanks,	. .	. .	. .	8	8	6
Foundries,	4	5	6	12	11	11
Fountains (private),	. .	. .	12	18	11	10
Fountains (public,	. .	. .	. .	10	11	11
Gas Works,	. .	. .	1	1	2	1
Greenhouses,	2	3	9	8	13	14
Halls (from 1895),	. .	. .	. .	. .	21	25
Hose,	. .	. .	885	1,857	3,148	3,375
Hotels,	7	12	15	20	18	18
Laundries,	. .	6	6	25	32	39
Manufactories,	6	50	80	78	60	64
Markets,	8	31	54	60	75	80
Motors,	. .	. .	13	44	41	41
Offices and Rooms,	. .	88	521	1,088	1,475	1,639
Parks (from 1895),	. .	. .	. .	. .	11	12
Photographers,	. .	6	9	11	10	10
Printers and Publishers,	. .	. .	. .	25	26	26
Public Buildings and Institutions (from 1895),	. .	. .	. .	. .	17	19
Public institutions (to 1895),	. .	. .	. .	6	. .	. .
Railroads,	. .	. .	3	4	4	4
Restaurants,	5	14	17	24	28	30
Saloons,	9	34	32	45	44	44
Schools,	.	12	15	33	36	37
Shops,	18	51	88	189	230	225
Slaughterhouses,	. .	. .	. .	1	. .	. .
Stables (private),	82	274	379	704	997	1,059
Stables (public),	6	14	23	30	28	25
Steam Engines,	. .	. .	48	74	71	85
Steam Heaters,	. .	. .	32	104	278	439
Stores,	125	225	320	359	455	495
Street Railways (from 1895),	. .	. .	. .	. .	1	1
Urinals,	. .	131	296	435	393	385
Water-closets,	. .	1,192	2,402	6,792	11,265	12,076
Watering Tanks and Drinking Fountains,	. .	. .	. .	12	11	10

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SUMMARY OF STATISTICS.

(As Recommended by the New England WaterWorks Association.)

REPORT OF 1896,

Springfield Water Works, Hampden County, Mass.

Population by census of 1895, ... 51,534
(*Estimated by assessors for* 1896, = 54,812).

Dates of construction :

Original works in city, by private company, 1864
(Sale of same to city, 1872.)

Works at Ludlow, Mass., . . 1873–1874–1875

Works at Belchertown, Mass., . . 1890–1891

Additional main from Ludlow reservoir, 1893–1894

By whom owned, ... City of Springfield.

Sources of supply :

Low pressure—from impounding reservoirs in the city, fed by springs, surface water, and also by the high pressure.

High pressure—from impounding reservoirs in Ludlow and Belchertown, fed by natural streams, springs and surface water.

(Aggregate storage capacity, 2,304,762,000 gallons.)

Mode of supply, ... entirely by gravitation.

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FINANCIAL.

(NOTE.—All expenditures, including ordinary extension of mains, etc., are made from general receipts—from water rates, sales, etc., but *amount* of such expenditure for *extension of mains* is annually determined by the City Council.)

MAINTENANCE.

RECEIPTS.

INVENTORY of material, tools, etc., on hand Dec. 10, 1895,....			$13,508 34
FROM CONSUMERS (Division 11):			
N. Water rates, fixed.....	$129,175 52		
Q. Water rates, meter.....	55,222 65		
C. Net receipts for water (from consumers).....	$184,398 17		
D. &. U. Other sources (services, meters, repairs, rents, sales, etc.) (See "Services"—under "Distribution"—18, 19, 20, etc., note).....	24,148 39		
E. Total.....		$208,546 56	
FROM PUBLIC FUNDS:			
F. Hydrants, 841 @ $20, (*value*).....	$16,820 00*		
G. Fountains, tanks, sewers, etc., (*value*).....	1,491 80*		
H. Street watering, (*cash*)..	4,975 58		
I. Public buildings and departments, (*value*).....	4,073 95*		
J. General appropriations, for bonded debt, (*cash*)..	25,000 00		
Total.....		52,361 33	
FROM REAL ESTATE RENTALS:			
House rent given employes in part payment for services, and mowing land rented at Ludlow, paid for by hay, (*value*).....		915 00*	
K. Gross receipts from all sources, 1896, (*cash and value*).....			261,822 89
Total available (including material, etc., from previous year)			$275,331 23

EXPENDITURES.

GENERAL ACCOUNT:—			
AA. Management and repairs..	$21,022 95		
BB. Interest on bonds	96,000 00		
Taxes on reservoir prop'ty	217 13		
		$117,240 08	
SPECIAL ACCOUNT:—			
Legal expense.....	$601 05		
Distrib'n mains, renewals.	4,260 40		
Pumping station Chapin Pond (operating).....	1,436 76		
Permanent pavement expense (examining, protecting and renewing mains, gates, services, etc.).....	707 80		
Miscellaneous accounts ...	414 06		
		7,420 07	
CC. Total maintenance for year.....		$124,660 15	
GG. (Including same under "Construction")—Services, meters, repairs, etc. (labor and material charged to consumers and included in "Receipts" under "D. & U.").....		18,209 88	
Bonds paid.....		25,000 00	
Gross expenditures			$167,870 03
DD. BALANCE, divided as follows:			
Amount used for construction.....		$22,536 57	
Cash transferred to sinking fund,.		50,476 30	
Value city use of water, charged to City of Springfield.....		22,300 75	
Inventory of material, tools. etc., on hand Dec. 10, 1896.....		12,147 58	
			107,461 20
EE. Total (in balance with receipts).....			$275,331 23

*No *cash* income derived, but estimated amounts charged and credited in ledger and annual report.

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CONSTRUCTION.

RECEIPTS.

R.	Balance from previous year (account "Ludlow Main No. 2")	$3,723 26
	Amount from maintenance receipts	22,536 57
S.	Bonds issued	00 00
T.	Appropriations from tax levy (see *note* under "Financial")	00 00
U.	Other sources (included with "D" under maintenance receipts)	.....
V.	Total available,	$26,259 83

EXPENDITURES.

FF.	Extensions, distribution mains		$21,018 62
GG.	Extension, services (paid for by consumers, see "Maintenance")		.....
HH.	Special:—		
	(*a*) Ludlow Main No. 2	$295 99	
	(*b*) Hydrant extensions	497 69	
	(*c*) Services—account of permanent pavements (called construction until abutters use and pay for them)	742 06	
	(*d*) Miscellaneous	278 20	
			1,813 94
II.	Total construction for year		$22,832 56
	Amount transferred by City Council from "Ludlow Main No. 2" fund to "Water Works" sinking fund		3,000 00
JJ.	Balance (account "Ludlow Main No. 2")		427 27
KK.	Total (in balance with receipts)		$26,259 83

GENERAL STATEMENTS.

W.	Net cost of works to date (including also cost to date of new "Ludlow Main No. 2," $317,784 28),	$2,039,379 11
X.	Bonded debt at this date,	1,600,000 00
Y.	Value of sinking fund at this date,	218,511 50
Z.	Rate of interest on bonded debt:—	
	7 per cent. on	$925,000 00
	6 per cent. on	200,000 00
	4 per cent. on	350,000 00
	3½ per cent. on	125,000 00
	Average rate 5.94½+ per cent. on	$1,600,000 00

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FINANCIAL.

(NOTE.—All expenditures, including ordinary extension of mains, etc., are made from general receipts—from water rates, sales, etc., but *amount* of such expenditure for *extension of mains* is annually determined by the City Council.)

MAINTENANCE.

RECEIPTS.

INVENTORY of material, tools, etc., on hand Dec. 10, 1895,....			$13,508 34
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D. & U. Other sources (services, meters, repairs, rents, sales, etc.) (See "Services"—under "Distribution"—18, 19, 20, etc., note).....	24,148 39		
E. Total.....		$208,546 56	
FROM PUBLIC FUNDS:			
F. Hydrants, 841 @ $20, (*value*).....	$16,820 00*		
G. Fountains, tanks, sewers, etc., (*value*).....	1,491 80*		
H. Street watering, (*cash*)..	4,975 58		
I. Public buildings and departments, (*value*).....	4,073 95*		
J. General appropriations, for bonded debt, (*cash*)..	25,000 00		
Total.....		52,361 33	
FROM REAL ESTATE RENTALS:			
House rent given employes in part payment for services, and mowing land rented at Ludlow, paid for by hay, (*value*).....		915 00*	
K. Gross receipts from all sources, 1896, (*cash and value*).....			261,822 89
Total available (including material, etc., from previous year)			$275,331 23

EXPENDITURES.

GENERAL ACCOUNT:—			
AA. Management and repairs..	$21,022 95		
BB. Interest on bonds	96,000 00		
Taxes on reservoir prop'ty	217 13		
		$117,240 08	
SPECIAL ACCOUNT:—			
Legal expense.....	$601 05		
Distrib'n mains, renewals.	4,260 40		
Pumping station Chapin Pond (operating).....	1,436 76		
Permanent pavement expense (examining, protecting and renewing mains, gates, services, etc.).....	707 80		
Miscellaneous accounts ...	414 06		
		7,420 07	
CC. Total maintenance for year.....		$124,660 15	
GG. (Including same under "Construction")—Services, meters, repairs, etc. (labor and material charged to consumers and included in "Receipts" under "D. & U.").....		18,209 88	
Bonds paid.....		25,000 00	
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			107,461 20
EE. Total (in balance with receipts).....			$275,331 23

*No cash income derived, but estimated amounts charged and credited in ledger and annual report.

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CONSTRUCTION.

RECEIPTS.		EXPENDITURES.			
R. Balance from previous year (account "Ludlow Main No. 2")	$3,723 26	FF. Extensions, distribution mains			$21,018 62
Amount from maintenance receipts	22,536 57	GG. Extension, services (paid for by consumers, see "Maintenance")			.....
S. Bonds issued	00 00	HH. Special:—			
T. Appropriations from tax levy (see *note* under "Financial")	00 00	(*a*) Ludlow Main No. 2	$295 99		
U. Other sources (included with "D" under maintenance receipts)	.....	(*b*) Hydrant extensions	497 69		
		(*c*) Services—account of permanent pavements (called construction until abutters use and pay for them)	742 06		
		(*d*) Miscellaneous	278 20		1,813 94
		II. Total construction for year			$22,832 56
		Amount transferred by City Council from "Ludlow Main No. 2" fund to "Water Works" sinking fund			3,000 00
		JJ. Balance (account "Ludlow Main No. 2")			427 27
V. Total available,	$26,259 83	KK. Total (in balance with receipts)			$26,259 83

GENERAL STATEMENTS.

W. Net cost of works to date (including also cost to date of new "Ludlow Main No. 2," $317,784 28),			$2,039,379 11
X. Bonded debt at this date,			1,600,000 00
Y. Value of sinking fund at this date,			218,511 50
Z. Rate of interest on bonded debt:—			
7 per cent. on	$925,000 00		
6 per cent. on	200,000 00		
4 per cent. on	350,000 00		
3½ per cent. on	125,000 00		
Average rate 5.94½+ per cent. on		$1,600,000 00	

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CONSUMPTION.

1.	Total population at date, (assessors estimate),	54,812
2.	Estimated population on lines of pipe at date,	48,800
3.	Estimated population supplied at date,	42,500
4.	Total number gallons consumed for year (estimated),	1,759,237,220 gallons
5.	Passed through domestic meters,	372,253,326 gallons
6.	Passed through manufacturing meters, (or 21+per cent.)	
7.	Average daily consumption (estimated),	4,819,828 gallons
8.	Gallons per day to each inhabitant (estimated) (1),	88
9.	Gallons per day to each consumer (estimated) (3),	113
10.	Gallons per day to each tap (estimated) ("Distribution," 22),	581

DISTRIBUTION.

MAINS.

1.	Kind of pipe used ;—wrought-iron, wrought-iron cement lined, and cast-iron.		
2.	Sizes ;—from $\frac{3}{4}$ to 36 inches.		
3.	Extended in 1896 (added to pipe table),		39,351 feet
4.	Discontinued in 1896 (deducted from pipe table),		8,415 feet
5.	Total now in use,		127.80 miles
6.	Cost of repairs per mile,		$11.69+
7.	Number of leaks per mile, (Total leaks during year=54.)		$\frac{42}{100}$+
8.	Small distribution pipes,—less than 4 inches in diameter,—total length,		39,779 feet
9.	Hydrants added in 1896, (public) net,		48
10.	Number now in use,		841
11.	Stop gates added in 1896 (public and private) net,		105
12.	Number now in use,		1,545
13.	Small stop gates, less than 4 inches—total,		281
	(a) High service,	160	
	(b) Low service,	121	
14.	Number of blow-off gates,		86

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15. Range of pressure on mains at center for day and night:
    (a) High service, ... 100 to 120 pounds
    (b) Low service, ... 30 to 35 pounds

SERVICES.

16. Kind of pipe used; —wrought-iron (tarred and galvanized) and cast-iron.
17. Sizes from ¾ to 6 inches.
18. Extended in 1896 (in feet).
19. Discontinued in 1896 (in feet).
20. Total now in use (in miles).

} NOTE.—Services paid for entirely by the consumers, and no special statistics kept of them.

21. Service taps added (net), ... 398
22. Number now in use, ... 8,298
23. Average length of service,
24. Average cost of service,

} (See note under 18, 19, 20.)

25. Meters added (including indicators), (net), 92
    (a) Meters added, ... 83
    (b) Indicators, added, ... 9
26. Number now in use (including indicators), 2,299
    (a) Meters (on supply pipes), . . 2,188
    (b) Indicators (on elevators and motors), 111
27. Motors and elevators added, (net), . . . 10
    (a) Motors added, 2; discontinued, 2; = 0
    (b) Elevators added, 11; discontinued, 1;= 10
28. Number now in use, ... 172
    (a) Motors, ... 41
    (b) Elevators, ... 131

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SUPERINTENDENT'S REPORT.

To the Board of Water Commissioners:

GENTLEMEN:—I herewith submit the twenty-third annual report of the Superintendent for the year ending November 30, 1896.

The amount of pipe laid, and the number of gates and fire hydrants set, the amount of pipe discontinued, and the number of gates and fire hydrants taken out, are shown in the following tables.

MAIN PIPE LAID, GATES AND HYDRANTS SET.

NUMBER.	Extensions	Renewals.	Private.	Totals.
Ft. of Pipe laid—High service.	22,754	6,142	51	28,947
Ft. of Pipe laid—Low service.	767	301	0	1,068
Totals laid, ...	23,521	6,443	51	30,015
Added to tables (changes, etc.,)	0	0	336	336
Totals, ...	23,521	6,443	387	30,351
Gates set—High service, .	57	8	40	105
Gates set—Low service, .	3	2	9	14
Totals set, ...	60	10	49	119
Added to tables (account previous years), ...	1	0	3	4
Totals, ...	61	10	52	123
Fire hydrants set-High service	47	5	0	52
Fire hydrants set-Low service	1	4	0	5
Totals, ...	48	9	0	57

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MAIN PIPE, GATES AND HYDRANTS TAKEN OUT OR ABANDONED.

NUMBER.	TOTALS.
Feet of Pipe—High service,	6,778
Feet of Pipe—Low service,	1,637
Total,	8,415
Gates—High service,	15
Gates—Low service,	3
Total,	18
Fire Hydrants—High Service,	5
Fire Hydrants—Low service,	4
Total,	9

There are now in use 127.80 miles of supply and distribution mains, a net addition of 4.15+ miles the past season.

Six hundred and eighty-six service taps have been made, a net addition of 398 in use. The total number now connected with the system is 8,298.

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RAINFALL.

The table which follows, shows the amount of rain and melted snow in inches, as registered at Belchertown, Ludlow, the U. S. Armory and the City Engineer's office in this city, during the year ending November 30, 1896.

Months.	Belchertown. Inches.	Ludlow Reservoir. Inches.	U. S. Armory. Inches.	Engineer's Office. Inches.
December, 1895,	2.15	3.83	2.77	2.92
January, 1896,	1.48	0.92	0.76	0.33
February, 1896,	5.45	3.74	4.45	4.15
March, 1896,	5.97	5.23	6.78	5.26
April, 1896,	1.92	1.40	0.85	0.98
May, 1896,	1.81	2.60	2.57	2.15
June, 1896,	3.68	2.45	2.87	2.83
July, 1896,	5.00	5.73	5.74	5.30
August, 1896,	3.13	1.32	2.58	2.34
September, 1896,	5 39	5.27	6.24	6 37
October, 1896,	3.54	3.68	4.03	3.45
November, 1896,	2.74	2.35	2.40	2.12
Totals,	42.26	38.52	42.04	38.20
Mean,	3.52+	3.21	3.50+	3.18+

MAINTENANCE.

Fifty-four leaks have been repaired this season, an average of $\frac{42}{100}$ + to the mile of pipe in use. The following table shows the size and kind of pipe on which they occurred.

KIND OF PIPE.	2″	3″	4″	6″	8″	10″	12″	16″	20″	24″	30″	36″	Totals
Cement-lined,	1	8	1	3	3	0	0	0	0	3	0	0	19
Cast-iron,	0	0	4	5	12	1	3	4	0	3	2	1	35
Totals,	1	8	5	8	15	1	3	4	0	6	2	1	54

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The works are becoming so extensive that the maintenance account is necessarily increasing. The large amount of pipe, gates, hydrants and other appurtenances connected with the system have to be carefully looked after and repaired when out of order. The canals in Ludlow and Belchertown require a great deal of attention to keep them in proper condition for conveying the water to the reservoirs, and there are many other matters to be attended to by this department.

But there are many expenses this department has to bear which could, or should, be avoided, resulting from the manner in which the streets are allowed to be dug up for the purpose of laying pipes and conduits by private corporations without a location for same being given by the proper city authorities. Some of the pipes thus laid have been placed directly over and others in close proximity to the water mains, thereby causing much needless damage and expense to the water department.

It seems to me that no such pipes or conduits should be laid in the public highways without first having a location properly assigned for the same.

Another enemy to the water and other pipes is electricity. The electric current from the street railway cars, after passing through the motors, is discharged into the rails which are supposed to carry it back to the power house, but a certain per cent. escapes into the earth, finds its way to the water pipes and causes damage by eating away the iron or lead wherever the current leaves the pipes.

We have had a few very marked cases in which corrosion has taken place by this electrolytic action. How much of this action is taking place it is difficult to determine, but I fear serious trouble is liable to occur from electrolysis unless some better way is devised for conveying the current back to the power house.

The gate houses at Indian Leap bridge have been thoroughly overhauled. New roofs and doors have been put on and the

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brick walls, where necessary, relaid. One of the twenty-four inch gates at the west end of this bridge had to be taken out as it was found to be broken and leaking badly, the result of the breaking of a stay rod that held the circular pipes in position at this point, thus bringing a leverage on the gate of sufficient force to break the flange.

The opening into the main was capped and the water is now confined to *one pipe* across the bridge, instead of flowing through two as before.

A twenty-four inch gate has been placed in the main line No. 1 opposite the Catholic cemetery. This line can now be shut off without cutting off the supply from a large district, as was necessary before the gate was put in.

Both the new and the old mains from Ludlow reservoir are in good condition. A few small leaks in these mains have occurred and been repaired, otherwise they have given us no trouble.

LUDLOW AND BELCHERTOWN DIVISIONS.

The Belchertown division, in charge of Francis Blackmer, has been well managed. The road that crosses the Knight and Gold reservoir has been raised, the slopes riprapped and otherwise protected from the action of the water. The canal from the Blackmer and Walker pond has produced an unusual quantity of vegetable matter, necessitating the cleaning of its entire length twice and a portion of its length three times. The brush on its banks have been cut back a proper distance on both sides of the whole line and other work done that was necessary to put the canal in first class condition. The gates and bulkheads are also in good order.

The Broadbrook canal, in charge of Thomas P. Conroy, the gate keeper in the Ludlow division, has produced a similar growth of water grass as that in the Belchertown division, and has been treated in the same manner, by mowing and raking out.

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The canal banks have been repaired where a few small leaks appeared.

A leak from the Belchertown reservoir into the canal has been stopped by dumping about fifteen loads of gravel on the pond side.

About five hundred feet of barbed wire fence has been built between the canal and land of Charles W. Alden.

The gates and bridges on this line of canal have been placed in order and are now in good condition.

The water in the Ludlow reservoir has been so poor in quality that it has been shut out from the city supply during most of the time since July seventh, at which time the pumps at Chapin pond were started and continued in service until the seventh of September, when they were shut down and put in safe condition for the winter.

INVENTORY.

The amount of stock, tools and fixtures on hand December 1, 1896, is $12,147.58.

STATISTICS.

Annexed will be found tables showing the size and location of pipe laid, gates and hydrants set, pipe, gates and hydrants taken out; also location of fountains, fire reservoirs, watering tanks, fire hydrants, standpipes and main and distribution pipe.

Respectfully submitted,

J. C. HANCOCK, *Superintendent.*

SPRINGFIELD, MASS., December 28, 1896.

BOARD OF WATER COMMISSIONERS, December 28, 1896.

Accepted, and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

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WATER PIPE LAID AND TAKEN OUT IN 1896.

INCLUDING ALL CHANGES IN PIPE TABLES.

LOCATION.	Size in Inches.	Material.	Length in Feet. High Service	Low Service.	Totals.
Pipe Laid by Private Parties.					
Webster street, extension	1	Wrought-iron.	51	....	51
Lebanon Place, south from King street (account 1887)	1¼	"	336	....	336
Total wrought-iron laid by private parties	....	....	387	....	387
Pipe Laid by City.					
Armory street, north from 8" toward Summer street	1	Wrought-iron.	39	....	39
Windsor avenue	1½	"	485	....	485
Oak street, I. O., south from Main.	2	"	83	....	83
Total wrought iron laid by city	....	.....	607	....	607
Hayden street	4	Cast-iron.	1,095	....	
HYDRANTS sundry sts., as follows:	4	"	....	....	
Atwater terrace	....	.....	12	....	
Chestnut street	....	.....	7	....	
Cottage ave. and Melrose st.	....	.....	13	....	
Dwight st., N. E. cor. Bridge	....	.....	14	....	
Foster court	....	.....	12	....	
Granada terrace	....	.....	13	....	
Hampden street, I. O.	....	.....	23	....	
Hayden street	....	.....	9	....	
Johnson street	....	.....	7	....	
Main st., N. E. cor. Worth'gton	....	.....	11	....	
Randall ave., north from Allen st.	4	Cast iron.	212	....	1,428
Atwater terrace, extension from Rimmon avenue	6	"	504	....	
Beechwood avenue, south from Sumner	6	"	276	....	
Beverly street	6	"	252	....	
Brace street	6	"	360	....	
Central street avenue	6	"	292	....	
Cleveland street	6	"	1,094	....	
Cliftwood avenue	6	"	449	....	
Cottage avenue and Melrose street	6	"	1,036	....	
Dickinson street, north from Sumner avenue	6	"	591	....	
Dwight st., Bridge to Worth'gton	6	"	....	286	
Foster court	6	"	762	....	
Granada terrace, east from Dickinson street	6	"	945	....	
Grove st., west from east Hooker	6	"	....	388	

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WATER PIPE LAID, ETC., IN 1896—CONTINUED.

LOCATION.	Size in Inches.	Material.	Length in Feet.		
			High Service.	Low Service.	Totals.
HYDRANTS, sundry sts., as follows:	6	Cast-iron	....	....	
Armory street	....	"	5	....	
Birnie avenue	....	"	12	....	
Central street avenue	....	"	17	....	
Chestnut street	....	"	187	....	
Cleveland street	....	"	13	....	
Cliftwood avenue	....	"	7	....	
Dwight street	....	"	....	4	
Eastern avenue	....	"	9	....	
Granada terrace	....	"	18	....	
Hillman street	....	"	8	....	
Kenwood park	....	"	30	....	
Lenox street	....	"	8	....	
Liberty street	....	"	15	....	
Main street, I. O.	....	"	27	....	
Maple avenue	....	"	21	....	
Oak Grove avenue	....	"	8	....	
Sanford street	....	"	6	....	
Seymour street, (later called Dresden avenue)	....	"	7	....	
Sullivan street	....	"	6	....	
Sumner avenue	....	"	21		
Taylor street	....	"	5	....	
Warner place	....	"	6	....	
Wendell avenue	....	"	....	15	
Wilbraham avenue	....	"	8		
Woodside avenue	....	"	9	....	
Worcester street, I. O.	....	"	29	....	
Worthington street	....	"	13	....	
Johnson street, extension	6	"	1,769	....	
Kenwood park	6	"	778	....	
Lenox street	6	"	447		
Lyman street, opposite No. 154-162.	6	"		11	
Maple avenue, east from Maple st.	6	"	392	....	
Market street, State to Sanford	6	"	298	....	
Oak Grove ave., north from State.	6	"	388	....	
Pearl street, Spring to Byers	6	"	296	....	
Rutledge avenue, extension	6	"		294	
Sanford street, extension to Market	6	"	211	....	
Seymour street (later called Dresden avenue)	6	"	805	....	
Sullivan street, east from Armory.	6	"	380	....	
Van Horn reservoir, extending high service feeder	6	"	36	....	
Warner place	6	"	797	....	
Welcome place	6	"	252	....	
Wendell avenue (name changed from "Oakley street,")	6	"	....	....	
Wendell avenue, extension	6	"	....	160	
Wilbraham avenue, extension	6	"	28	....	
Woodside avenue	6	"	419	....	13,450
Belmont avenue, extension to beyond Beaumont street	8	"	828	....	
Belmont avenue, N. W. and S. E. from Sumner	8	"	34	....	
Birnie avenue, south from Wason.	8	"	520	....	
Eastern ave., north from Melrose st.	8	"	223	....	
Hillman street, west from Dwight.	8	"	466	....	
Liberty street, west from Armory..	8	"	1,950	....	
Sumner avenue, extension	8	"	3,278	....	
Taylor street, east from Dwight...	8	"	383	....	
Wason avenue, west from Birnie..	8	"	93	....	
Wilbraham avenue, south from 6".	8	"	192	....	
Worthington street, Federal to Bowdoin	8	"	1,270	....	9,239

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WATER PIPE LAID, ETC., IN 1896—CONCLUDED.

LOCATION.	Size in Inches.	Material.	Length in Feet. High Service.	Low Service.	Totals.
Chestnut street, north of Carew	12	Cast-iron.	20	...	
Chestnut street, south of 16"	12	"	35	....	
Chestnut street, at Worthington, north (28 feet of high service, wrongly included in 901 feet from Worthington street to Harrison avenue in 1895)	12	"	....	...	55
Chestnut street, south from Carew	16	"	3,185	....	3,185
Total cast-iron laid by city			28,289	1,068	29,357
Total wrought-iron laid by city (forward)			607	....	607
Total wrought-iron laid by private parties (forward)			387	....	387
Total amount added, 1896			29,283	1,068	30,351
Pipe Taken Out or Abandoned.					
Worthington street, west from 2" (P)	1¼	Wrought-iron.	82	....	82
Central street avenue	2	"	250	....	
Liberty street, west from Armory	2	"	1,961	....	
Maple avenue, east from Maple street (P)	2	"	340	...	
Worthington street, west from Bowdoin (P)	2	"	204	...	2,755
Hillman street, west from Dwight	4	Cast-iron.	455	....	
HYDRANTS; sundry sts. as follows:	4	.....	...	....	
Chestnut street	....	Cast-iron.	187	....	
Dwight street	....	Cement-lined.	....	4	646
Dwight st., Bridge to Worthington	6	"	....	286	
Lyman street, opposite Nos. 154-162 (east from 8" cast iron)	6	"	...	11	
Oakley street (name changed to "Wendell avenue")	6	Cast-iron.	....	..	
Stebbins Spring, dam to Lombard reservoir pipe	6	"	...	1,300	1,597
Chestnut street, north from Carew	8	"	15	....	
Chestnut street, Carew to Worthington	8	"	3,284	....	
Stebbins Spring, through dam	8	"	....	36	3,335
Chestnut street, Worthington to Harrison avenue (28 feet of high service wrongly included in 901 feet in 1895; actually laid at Worthington street, *north*)	12	"	...	....	....
Total amount taken out or abandoned, 1896,			6,778	1,637	8,415
Net addition to tables, 1896			22,505	—569	21,936

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GATES SET IN 1896.

(INCLUDING THOSE ADDED.)

ONE-INCH.

Armory street, N. end of 8″ (S. of Summer),	High,	1	
		—	1

ONE AND ONE-QUARTER-INCH.

Cliftwood avenue, near S. end (for flushing pipe),	High,	1	
Franklin street, at Cass (E.) (private) (acct. 1894).	High,	1	
Lebanon place, at King street (private) (acct. 1887),	High,	1	
Park avenue, S. of Sumner (for flushing pipe).	High,	1	
		—	4

ONE AND ONE-HALF-INCH.

Windsor avenue, at State street,	High,	1	
Windsor avenue, at Wilbraham road,	High,	1	
		—	2

TWO-INCH.

Bay street, opposite Pleasant (flush),	High,	1	
Bradford street, at Fulton (flush),	Low,	1	
Dwight street, N. of Bridge (flush),	High,	1	
Dwight street, S. of Bridge (flush),	High,	1	
Dwight street, N. of Harrison avenue (flush),	High,	1	
Hancock avenue, W. of No. 44 (flush),	High,	1	
Harrison avenue, near Dwight street (flush),	High,	1	
Hubbard avenue, W. of Dale street (flush,)	Low,	1	
Oak street, Indian Orchard, at Main,	High,	1	
Reed street, near State (private),	High,	1	
		—	10

THREE-INCH.

Collins street, near Logan (flush),	High,	1	
Gardner street, at No. 11 (flush),	Low,	1	
Marion street, N. of No. 97 (flush),	High,	1	
Plainfield street, S. of Worcester (flush),	Low,	1	
Pynchon street, at Water (for fire reservoir),	Low,	1	
Sanford street, near Dwight (for stand-pipe),	Low,	1	
		—	6

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FOUR-INCH.

Carew street (for No. 233—Catholic hospital) (private),	High,	1
Chestnut street, at Liberty (flush),	High,	1
Cleveland street, at Liberty (flush),	High,	1
Cliftwood avenue, at Sumner,	High,	1
Dwight street, for Steam Power Co. (N.) (private),	High,	1
Dwight street, for Steam Power Co. (S.) (private),	High,	1
Dwight street, for No. 187 (private),	High,	1
Dwight street, at Bridge (for hydrant),	High,	1
Dwight street, at Harrison avenue (for hydrant),	High,	1
Dwight street, at Harrison avenue (flush),	Low,	1
Dwight street, near State, for H. J. Whitcomb (private),	High,	1
Elm street, for fire reservoir,	Low,	1
Grace street, for E. Stebbins Co. (private),	High,	1
Hampden street, for Vinton & Nelson (private),	High,	1
Harrison avenue, for E. Morgan (private),	High,	1
Harrison avenue, for L. F. Carr (private),	High,	1
Hayden street, at Andrew,	High,	1
Hayden street, at State,	High,	1
Hillman street, for city market (private),	High,	1
Hillman street, for Highland Bottling Co. (private),	High,	1
James street (flush) (acct 1890),	High,	1
Lenox street, at Sumner avenue,	High,	1
Lyman street, for No. 231 Main (private),	High,	1
Main street, corner Acushnet avenue, for school-house (private),	High,	1
Main street, N. E. corner Worthington (for hydrant),	High,	1
Market street, for Nos. 5-13 (private),	High,	1
Monmouth street, near Amherst (flush)	High,	1
Randall avenue, at Allen street,	High,	1
Sanford street, for No. 16 (private),	High,	1
Seymour street, at State (later called Dresden avenue),	High,	1
State street, for No. 97 (private),	High,	2
State street, N. E. corner Dwight (for hydrant),	High,	1
State street, for Springfield Industrial Institute (private),	High,	1
Taylor street, for No. 99 (private),	High,	1
Wason avenue, for Baush & Harris Machine & Tool Co. (private),	High,	1

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Wilbraham avenue, for National Photo-Paper & Chemical Co. (private),	High,	1	
Worthington street, for Nos. 93-95 (private),	High,	1	
Worthington street, for Nos. 308-312 Main (private),	High,	1	
Worthington street, for Whitney's block, N. W. corner Dwight (private),	High,	2	
Worthington street, for Nos. 219-223 (private),	High,	1	
		—	42

SIX-INCH.

Atwater terrace, at Rimmon avenue,	High,	1
Beechwood avenue, at Sumner,	High,	1
Beverly street, at Northampton avenue,	High,	1
Beverly street, at Wilbraham avenue,	High,	1
Brace street, at Dickinson,	High,	1
Central street avenue, at Central street,	High,	1
Chestnut street, at Liberty (for hydrant),	High,	1
Chestnut street, at Lyman (for hydrant),	High,	1
Cleveland street, at Armory,	High,	1
Cottage avenue and Melrose street, at Walnut,	High,	1
Dickinson street, at Sumner avenue,	High,	1
Dwight street, at Bridge (N.),	Low,	1
Franklin street, at Chestnut (E.) (for hydrant),	High,	1
Granada terrace, at Dickinson street,	High,	1
Grove street, at East Hooker,	Low,	1
Johnson street, near Dickinson,	High,	1
Kenwood park, at Belmont avenue,	High,	1
Linden street, at Chestnut street (for hydrant),	High,	1
Lyman street, for Nos. 154-162 (private),	Low,	1
Main street, Indian Orchard (for hydrant),	High,	1
Maple avenue, at Maple street,	High,	1
Melrose street and Cottage avenue, at Eastern avenue,	High,	1
Morris street, for Agawam Man'f'g Co. (private),	Low,	1
Oak Grove avenue, at State street,	High,	1
Pearl street, at Byers,	High,	1
Pearl street, at Spring,	High,	1
Sanford street, at Market (E.)	High,	1
Seymour street, at Wilbraham road (later called Dresden avenue),	High,	1
State street, for Industrial Institute (private),	High,	1
Sullivan street, at Armory,	High,	1
Taylor street, at Dwight,	High,	1

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Warner place, at Fort Pleasant avenue,	High,	1	
Warner place, at Long Hill street,	High,	1	
Water street, at Railroad row (for hydrant) (acct. of previous years),	Low,	1	
Welcome place, at Bay street,	High,	1	
Wilbraham avenue, at Beverly street (N.),	High,	1	
Wilbraham avenue, for Hutchins Narrow Fabric Co. (private),	High,	1	
Wilbraham road, for Industrial Institute (private),	High,	1	
Woodside avenue, at Belmont,	High,	1	
Worthington street, for No. 115 (private),	Low,	1	
Worthington street, for Nos. 181-187 Dwight (private),	Low,	1	
Worthington street, at Federal (east),	High,	1	
Worthington street, at Armory (west),	High,	1	
		—	43

EIGHT-INCH.

Belmont avenue, at Sumner (N.),	High,	1	
Belmont avenue, at Sumner (S.),	High,	1	
Hillman street, at Barnes, (W.),	High,	1	
Hillman street, at Dwight,	High,	1	
Liberty street, at Armory (W.),	High,	1	
Liberty street, at Heywood avenue (E.),	High,	1	
Sumner avenue, at Forest park (E.),	High,	1	
Wason avenue, at Birnie (W.),	High,	1	
Worthington street, at Armory (E.),	High,	1	
Worthington street, at Bowdoin (W.),	High,	1	
		—	10

TWELVE-INCH.

Chestnut street, at Carew, (N.),	High,	1	
		—	1

SIXTEEN-INCH.

Chestnut street, at Liberty (N.),	High,	1	
Chestnut street, at Franklin (N.),	High,	1	
Chestnut street, at Carew (S.),	High,	1	
		—	3

TWENTY-FOUR-INCH.

Berkshire street, near State,	High,	1	
		—	1
Total number of gates added in 1896,			123

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GATES TAKEN OUT IN 1896.

(INCLUDING THOSE ABANDONED.)

ONE-INCH.

Central street avenue, at Central street,	High,	1	
			1

ONE AND ONE-QUARTER-INCH.

Bradford street, at Fulton (flush),	Low,	1	
Harrison avenue, near Dwight street (flush),	High,	1	
Liberty street, at Armory, (W.),	High,	1	
			3

TWO-INCH.

Dwight street, S. of Hillman (flush),	High,	1	
Harrison avenue, near Dwight (flush),	High,	1	
Liberty street, at Heywood avenue (E.),	High,	1	
Maple avenue, at Maple street (private),	High,	1	
			4

THREE-INCH.

Pynchon street, at Water (fire reservoir),	Low,	1	
			1

FOUR-INCH.

Chestnut street, at Liberty (flush),	High,	1	
Hillman street, at Dwight,	High,	1	
State street, for No. 97 (private),	High,	1	
			3

SIX-INCH.

Dwight street, at Bridge (N.),	Low,	1	
Elm street, near Main (flush),	High,	1	
			2

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EIGHT-INCH.

Chestnut street, at Carew (N.), . . .	High,	1	
Chestnut street, at Carew (S.), . . .	High,	1	
Chestnut street, at Franklin, . . .	High,	1	

TWENTY-FOUR INCH.

Indian Leap bridge, at west end, . .	High,	1	
			1
Total, ...			18

Number of gates December 1, 1895. . .		1,440
Number of gates added in 1896, . .	123	
Number of gates taken out in 1896, . .	18	
Net addition in 1896, . . .		105

Total number of gates December 1, 1896,	1,545

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FIRE HYDRANTS SET IN 1896.

HIGH SERVICE.

Armory street, north of B. & A. R. R.,	1
Atwater terrace,	1
Birnie avenue,	1
Central street, S. W. corner Central street avenue,	1
Chestnut street, N. E. corner State,	1
Chestnut street, S. W. corner Lyman,	1
Chestnut street, N. W. corner Liberty,	1
Chestnut street, opposite Ferry,	1
Chestnut street, in front of No. 275,	1
Chestnut street, opposite Sharon,	1
Chestnut street, S. E. corner Franklin,	1
Chestnut street, opposite Greenwood,	1
Chestnut street, opposite Tenth,	1
Chestnut street, N. E. corner Linden,	1
Chestnut street, opposite Patton,	1
Cleveland street, corner Armory,	1
Cleveland street, corner Liberty,	1
Cliftwood avenue,	1
Eastern avenue, S. W. corner Marshall place,	1
Foster court,	2
Granada terrace, in grass plot,	1
Granada terrace, N. E. corner Dickinson,	1
Hampden street, Indian Orchard,	1
Hayden street,	1
Hillman street, N. W. corner Barnes,	1
Johnson street, north side, end of pipe,	1
Kenwood park, N. W. corner Belmont avenue,	1
Kenwood park, west side, midway,	1
Kenwood park, S. W. corner Dickinson street,	1
Lenox street,	1
Liberty street, at Gurdon Bill's,	1
Liberty street, near Mrs. Woodruff's,	1
Main street, Indian Orchard, midway Oak and Myrtle,	1
Main street, Indian Orchard, in front of Trombley's,	1
Maple avenue, 350 feet E. of Maple street,	1

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Melrose street, north side, midway,	1	
Melrose street, N. W. corner Eastern avenue,	1	
Oak grove avenue, west side, end of pipe,	1	
Pine street, west side, opposite No. 239,	1	
Sanford street, N. E. corner Market,	1	
Seymour street, east side, midway (later called Dresden avenue),	1	
Sullivan street, north side,	1	
Sumner avenue, S. W. corner Belmont,	1	
Sumner avenue, east of Belmont,	1	
Taylor street,	1	
Warner place,	1	
Wilbraham avenue, east side, at end of pipe,	1	
Woodside avenue,	1	
Worcester street, Indian Orchard,	1	
Worthington street, N. W. corner Armory,	1	
Worthington street, south side, midway Armory and Bowdoin,	1	
		52

LOW SERVICE.

Court street, N. W. corner Main,	1	
Dwight street, S. E. corner Worthington,	1	
Elm street, S. W. corner Main,	1	
Walker street, north side, midway,	1	
Wendell avenue,	1	
		5
Total number city hydrants set in 1896,		57

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FIRE HYDRANTS TAKEN OUT IN 1896.

HIGH SERVICE.

Chestnut street, S. E. corner Linden,	1	
Chestnut street, east side, opposite Sharon,	1	
Hillman street, south side, front of Meekins & Packard,	1	
Pine street, opposite No. 239.	1	
State street, N. W. corner Chestnut,	1	
		5

LOW SERVICE.

Court street, N. W. corner Main,	1	
Elm street, S. W. corner Main,	1	
Walker street, north side, midway,	1	
Worthington street, S. E. corner Dwight,	1	
		4
Total number city hydrants taken out in 1896,		9

Number of city hydrants as per report, December 1, 1895,		793
Number of city hydrants set in 1896.	57	
Number of city hydrants taken out in 1896,	9	
Net addition, 1896,		48
Total number of city hydrants December 1, 1896,		841
High service, 601		
Low service, 240		

Number of private hydrants December 1, 1895,	86	
Number of private hydrants set in 1896,	0	
Total number of private hydrants December 1, 1896,		86

Total number of hydrants connected with the works December 1, 1896,	927

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STANDPIPES

(FOR STREET SPRINKLING)

CONNECTED WITH THE WORKS.

1.	Water street, at Worthington,	Low,	1
2.	Cypress street, at Main,	High,	1
3.	Main street, at Hooker school,	High,	1
4.	Fulton street, near Auburn,	Low,	1
5.	North Main street, near Carew,	High,	1
6.	Plainfield street, near John,	Low,	1
7.	North Main street, at Arch,	High,	1
8.	North Main street, near Grace,	Low,	1
9.	Chestnut street, at Montmorenci,	Low,	1
10.	North street, at Osgood,	Low,	1
11.	Carew street, at brickyard.	High,	1
12.	Chestnut street, opposite Patton,	Low,	1
13.	Linden street, near Cass,	Low,	1
14.	Chestnut street, near Franklin,	Low,	1
15.	Liberty street, at Covell's,	High,	1
16.	Armory street, at Liberty,	High,	1
17.	Magazine street, at Armory,	High,	1
18.	Armory street, at Grant,	High,	1
19.	Worthington street, at Kibbe avenue,	High,	1
20.	Worthington street, opposite Autumn,	High,	1
21.	Spring street, near Worthington,	High,	1
22.	Byers street, near Pearl,	High,	1
23.	Dwight street, near Taylor,	High,	1
24.	Dwight street, near Hillman,	High,	1
25.	Sanford street, near Dwight,	Low,	1
26.	Chestnut street, at Edwards,	High,	1
27.	State street, at Byers,	High,	1
28.	State street, at Federal,	High,	1
29.	St. James avenue at Bay street,	High,	1
30.	Worthington street, at Florida,	High,	1
31.	Worthington street, at Thompson park,	High,	1
32.	St. James avenue, at Princeton,	High,	1
33.	Amherst street, at Princeton,	High,	1
34.	Bay street, at Marion,	High,	1

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35.	Bay street, near Buckingham,	High,	1
36.	Hancock street, at State,	High,	1
37.	State street, at Maple dell,	High,	1
38.	State street, at Willard avenue,	High,	1
39.	Wilbraham road, near Northampton avenue,	High,	1
40.	Wilbraham road, at engine-house,	High,	1
41.	Monroe street, at Eastern avenue,	High,	1
42.	Eastern avenue, at King street,	High,	1
43.	Eastern avenue, at Alden street,	High,	1
44.	Walnut street, opposite Manhattan,	High,	1
45.	Alden street, at Hancock,	High,	1
46.	King street, at Hancock,	High,	1
47.	Quincy street, at Hancock,	High,	1
48.	Walnut street, at Queen,	High,	1
49.	Pine street at cemetery gate,	High,	1
50.	Oak street, at Walnut,	High,	1
51.	Union street, at Mulberry,	High,	1
52.	Mulberry street, at Ridgewood place,	High,	1
53.	Maple street, at Central,	High,	1
54	Pine street, at Central,	High,	1
55.	Pine street, at Maple,	High,	1
56.	Central street, at Spruce,	High,	1
57.	Allen street, at Mill,	High,	1
58.	Euclid avenue, at Dickinson street,	High,	1
59.	Belmont avenue, at Euclid,	High,	1
60.	Sumner avenue, at Forest park,	High,	1
61.	Sumner avenue, near Jackson street,	High,	1
62.	Sumner avenue, near Fort Pleasant,	High,	1
63.	Fort Pleasant avenue, near Oxford street,	High,	1
64.	Locust street, at Mill,	High,	1
65.	Pine street, at Mill,	High,	1
66.	South street, at Mill river,	High,	1
67.	Main street at Locust,	High,	1
68.	Adams street, at Main,	Low,	1
69.	Loring street, at Water,	High,	1
70.	Park street, at Willow,	High,	1
71.	Howard street, at Water,	Low,	1
72.	Water street, at Court,	Low,	1
			72

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WATERING TANKS AND DRINKING FOUNTAINS

CONNECTED WITH THE WORKS.

Court street, at Court square,	1	
Liberty street, at Armory,	1	
Main street, at Mill,	1	
Main street, Indian Orchard, at Oak,	1	
Mill street, at Watershops,	1	
North Main street, opposite Bradford,	1	
State street, at Federal,	1	
State street, at Winchester park,	1	
State street, at Indian Orchard road,—opposite Catholic cemetery,	1	
Water street, at Court,	1	
Total,		10

PUBLIC PARKS AND FOUNTAINS

CONNECTED WITH THE WORKS.

Benton park, State street, between Federal and Magazine,	1	
Calhoun park, Chestnut street, between Calhoun and Jefferson avenue (no fountain),	1	
Clarendon park, Clarendon street, at Bay,	1	
Dartmouth park, Dartmouth street, at Bay,	1	
Forest park, Sumner avenue (no fountain),	1	
Kibbe park, Federal street, at Armory,	1	
Magnolia terrace, at Sumner avenue,	1	
McKnight park, Buckingham street, at Bay,	1	
Mill street park, Mill street, at Pine,	1	
Stearns park, between Bridge and Worthington streets,	1	
Thompson park, St. James avenue, at Worthington street,	1	
Winchester park, State street, at Wilbraham road (no fountain),	1	
Total,		12

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FIRE RESERVOIRS

CONNECTED WITH THE WORKS.

Bridge street, at Main,	1	
Central street, opposite Beech,	1	
Elm street, at First church,	1	
Howard street, at Main,	1	
Lyman street, at Dwight,	1	
Main street, at Court square,	1	
Main street, at State,	1	
Maple street, at Central,	1	
Maple street, near Cross,	1	
Pine street, at Central,	1	
Pynchon street, near Water,	1	
School street, at High,	1	
State street, near Elliott,	1	
Walnut street, at Hancock,	1	
Water street, opposite Walker,	1	
Total,		15

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FIRE HYDRANTS

CONNECTED WITH THE WORKS.

No.	High or Low.	Location.	Make.
1.	H.	S. W. corner Main and Cypress streets.	Chapman
2.	L.	N. W. corner Main and Cypress streets.	Chapman
3.	H.	N. W. corner Cypress street and Cypress avenue.	Chapman
4.	H.	N. E. corner Gray's avenue and Cypress street.	Chapman
5.	L.	Gray's avenue, west side, midway.	Chapman
6.	L.	Boylston street, east side, between Cypress and Emery streets.	Chapman
7.	H.	N. E. corner Cypress and Boylston streets.	Chapman
8.	L.	N. E. corner Fulton and Cypress streets.	Perkins
9.	H.	N. E. corner Fulton and Cypress streets.	Chapman
10.	H.	N. E. corner Fulton and Emery streets.	Chapman
11.	L.	N. E. corner Fulton and Emery streets.	Chapman
12.	H.	N. E. corner Emery and Boylston streets.	Chapman
13.	H.	Emery street, north side, opposite Gray's avenue.	Chapman
14.	H.	S. W. corner Main and Emery streets.	Chapman
15.	H.	N. W. corner Main and Clinton streets.	Chapman
16.	L.	Clinton street, south side, midway.	Chapman
17.	L.	N. E. corner Fulton and Clinton streets.	Chapman
18	L.	N. E. corner Fulton and Vine streets.	Chapman
19.	L.	Vine street, south side, midway.	Chapman
20.	H.	N. W. corner Main and Vine streets.	Chapman
21.	H.	N. W. corner Main and Holyoke streets.	Chapman
22.	L.	Holyoke street, north side, midway.	Chapman
23.	L.	N. E. corner Fulton and Holyoke streets.	Chapman
24.	L.	N. E. corner Fulton and Auburn streets.	Chapman
25.	L.	Auburn street, north side, midway.	Chapman
26.	H.	S. W. corner Main and Auburn streets.	Chapman
27.	H.	S. W. corner Main and Seventh streets.	Chapman
28.	L.	Seventh street, north side, midway.	Perkins
29.	L.	N. E corner Fulton and Seventh streets.	Chapman
30.	L.	N. E. corner Fulton and Sargeant streets.	Chapman
31.	H.	N. W. corner Main and Sargeant streets.	Chapman

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No.	High or Low.	Location.	Make.
32.	H.	N. W. corner No. Main and Bradford streets.	Chapman
33.	L.	Bradford street, north side, midway.	Chapman
34.	L.	N. E. corner Fulton and Bradford streets.	Chapman
35.	L.	N. E. corner Fulton and John streets.	Chapman
36.	L.	S. W. corner Plainfield and John streets.	Chapman
37.	L.	Plainfield street, west side, near Plymouth.	Chapman
38.	L.	Fulton street, opposite M. Dunn's house, Round Hill.	Chapman
39.	L.	Plainfield street, north side, at Fulton.	Chapman
40.	L.	N. W. corner Plainfield and Washburn streets.	Chapman
41.	L.	N. W. corner Plainfield and Lowell streets.	Chapman
42.	L.	Lowell street, north side, midway.	Chapman
43.	L.	Lowell street, north side, at end of street.	Chapman
44.	L.	Washburn street, north side, midway.	Chapman
45.	L.	Washburn street, north side, at end of street.	Chapman
46.	L.	Orchard street, west end, north side.	Chapman
47.	L.	Orchard street, N. W. corner Plainfield.	Chapman
48.	L.	Abbe avenue, N. W. corner Plainfield street.	Chapman
49.	L.	Plainfield street, at No. 407.	Chapman
50.	L.	Talcott avenue, N. E. corner Plainfield street.	Chapman
51.	L.	Talcott avenue, north side, midway.	Chapman
52.	L.	N. W. corner Fisk and Talcott avenues.	Chapman
53.	H.	S. W. corner Fisk and Worcester avenues.	Chapman
54.	H.	Fisk avenue, east end of Holyoke Card and Paper Co's. shop.	Chapman
55.	H.	S. W. corner Fisk and Hyde avenues.	Chapman
56.	H.	S. W. corner Fisk and Demond avenues.	Chapman
57.	L.	N. W. corner Fisk and Worcester avenues.	Chapman
58.	L.	Worcester avenue, north side, midway.	Chapman
59.	L.	N. E. corner Plainfield street and Worcester avenue.	Chapman
60.	L.	Demond avenue, north side, midway.	Chapman
61.	L.	N. E. corner Plainfield street and Demond avenue.	Chapman
62.	H.	Hyde avenue, S. E. corner Plainfield street.	Chapman
63.	L.	N. E. corner Plainfield street and Hyde avenue.	Chapman
64.	L.	S. E. corner Plainfield street and Wason avenue.	Chapman
65.	H.	S. W. corner Wason and Fisk avenues.	Chapman
66.	L.	S. E. corner Wason and Fisk avenues.	Matthews
67.	L.	Wason avenue, north side, opposite No. 31.	Chapman
68.	H.	Birnie avenue, S. E. corner Wason, 6″.	Chapman
69.	L.	No. Main street, opposite Wason avenue.	Chapman
70.	H.	Birnie avenue, 200 feet north of Grace street.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
71.	H.	S. E. corner Birnie avenue and Grace street.	Chapman
72.	L.	Birnie avenue, at end of Grace street.	Ayers
73.	H.	S. W. corner No. Main and Grace streets.	Chapman
74.	H.	N. W. corner No. Main and Walter streets.	Chapman
75.	H.	Birnie avenue, S. E. corner Alfred street, 6″.	Perkins
76.	H.	Birnie avenue, S. E. corner Douglass street.	Chapman
77.	H.	Birnie avenue, just south of preceding.	Chapman
78.	H.	Douglass street, N. W. corner No. Main.	Chapman
79.	H.	N. E. corner No. Main and Grove streets.	Chapman
80.	L.	N. W. corner No. Main and Hooker streets.	Chapman
81.	L.	N. E. corner No. Main and Calhoun streets.	Chapman
82.	H.	S. E. corner No. Main and Calhoun streets.	Chapman
83.	L.	N. E. corner No. Main street and Jefferson avenue.	Chapman
84.	L.	Arch street, north side, front of No. 36.	Chapman
85.	H.	N. W. corner No. Main and Arch streets.	Perkins
86.	L.	Bancroft street, south side, midway.	Chapman
87.	H.	N. E. corner No. Main and Bancroft streets.	Chapman
88.	L.	N. E. corner No. Main and Bancroft streets.	Chapman
89.	H.	S. E. corner No. Main and Osgood streets.	Chapman
90.	L.	Morgan street, south side, midway.	Chapman
91.	H.	N. E. corner No. Main and Morgan streets.	Chapman
92.	L.	S. E. corner No. Main and Morgan streets.	Brown
93.	H.	S. E. corner No. Main and Church streets.	Chapman
94.	H.	North street, N. E. corner Carew.	Chapman
95.	L.	N. E. corner Carew and North streets.	Chapman
96.	H.	S. E. corner Main and Carew streets.	Chapman
97.	H.	S. E. corner Main and Bond streets.	Chapman
98.	L.	N. E. corner Main and Bond streets.	Chapman
99.	L.	Bond street, north side, midway.	Chapman
100.	L.	Bond street, north side, front of Nos. 110–112.	Chapman
101.	L.	N. W. corner Chestnut and Patton streets.	Chapman
102.	L.	Patton street, north side, front of No. 54.	Chapman
103.	L.	N. E. corner Main and Patton streets.	Chapman
104.	H.	S. E. corner Main and Patton streets.	Chapman
105.	H.	N. E. corner Main and Essex streets.	Chapman
106.	L.	N. E. corner Main and Essex streets.	Perkins
107.	L.	Essex street, north side, opposite No. 51.	Perkins
108.	L.	Essex street, north side, front of No. 98.	Perkins
109.	L.	N. W. corner Chestnut and Tenth streets.	Chapman
110.	L.	Tenth street, north side, opposite Nos. 105–107.	Chapman
111.	L.	Tenth street, north side, front of Nos. 54–56.	Chapman

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No.	High or Low.	Location.	Make.
112.	H.	N. E. corner Main and Tenth streets.	Chapman
113.	H.	N. E. corner Main and Greenwood streets.	Chapman
114.	L.	Greenwood street, north side, front of No. 42.	Chapman
115.	L.	Greenwood street, north side, opposite No 83.	Chapman
116.	L.	Greenwood street, north side, front of No. 118.	Chapman
117.	H.	S. W. corner Chestnut and Franklin streets.	Chapman
118.	H.	Franklin street, south side, front of Nos. 111–113.	Chapman
119.	H.	Franklin street, south side, at stone yard.	Chapman
120.	H.	Franklin street, south side, opposite No. 46.	Chapman
121.	L.	N. E. corner Main and Franklin streets.	Chapman
122.	H.	Franklin street, S. E. corner Main, 6″, S. con.	Chapman
123.	H.	S. E. corner Main and Congress streets.	Chapman
124.	L.	Congress street, north side, opposite No. 33.	Chapman
125.	L.	Congress street, north side, opposite No. 97.	Chapman
126.	L.	N. W. corner Chestnut and Sharon streets.	Perkins
127.	L.	Sharon street, north side, front of No. 92.	Perkins
128.	L.	Sharon street, north side, front of No. 52.	Perkins
129.	H.	S. E. corner Main and Sharon streets.	Chapman
130.	H.	S. E. corner Main and Ferry streets.	Chapman
131.	L.	Ferry street, north side, front of No. 46.	Chapman
132.	L.	Ferry street, north side, opposite No. 97.	Chapman
133.	L.	Chestnut street, west side, opposite Liberty.	Perkins
134.	H.	Chestnut street, opposite Ferry, 6″, S. con.	Chapman
135.	H.	Chestnut street, opposite No. 275, 6″, S. con.	Chapman
136.	H.	Chestnut street, opposite Sharon, 6″, S. con.	Chapman
137.	H.	Chestnut street, east side, opposite Congress.	Chapman
138.	H.	Chestnut street, S. E. corner Franklin, 6″, S. con.	Chapman
139.	H.	Chestnut street, opposite Greenwood, 6″, S. con.	Chapman
140.	H.	Chestnut street, opposite Tenth, 6″, S. con.	Chapman
141.	H.	N. E. corner Chestnut and Linden streets, 6″, S. con.	Chapman
142.	L.	Linden, near S. E. corner Chestnut street.	Chapman
143.	L.	Linden street, south side, opposite No. 46.	Perkins
144.	L.	S. W. corner Cass and Linden streets.	Chapman
145.	L.	S. W. corner Cass and Everett streets.	Chapman
146.	L.	Everett street, south side, midway.	Ayers
147.	H.	Chestnut street, opposite Patton, 6″, S. con.	Chapman
148.	L.	S. E. corner Chestnut and Everett streets.	Chapman
149.	L.	N. W. corner Chestnut and Patton streets.	Chapman
150.	L.	N. E. corner Chestnut and Butler streets.	Chapman
151.	L.	Arbor street, east side, front of No. 40.	Chapman
152.	H.	Massasoit street, N. E. corner Carew.	Chapman

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No.	High or Low.	Location.	Make.
153.	L.	N. W. corner Carew and Massasoit streets.	Chapman
154.	H.	Chestnut street, S. E. corner Carew.	Chapman
155.	L	N. E. corner Chestnut and Carew streets.	Chapman
156.	L.	N. E. corner North and Grosvenor streets.	Chapman
157.	L.	Grosvenor street, south side, midway.	Chapman
158.	L.	N. W. corner, Chestnut and Grosvenor streets.	Chapman
159.	L.	S. W. corner Chestnut and Ringgold streets.	Chapman
160.	L.	Ringgold street, south side, midway.	Chapman
161.	L	N. E. corner North and Ringgold streets.	Chapman
162.	L.	S. W. corner North and Morgan streets.	Chapman
163.	L.	N. W. corner North and Osgood streets.	Chapman
164.	L.	Hebron street, north side, midway.	Chapman
165.	L.	N. W. corner Chestnut and Hebron streets.	Chapman
166.	L.	S. W. corner Prospect and Massasoit streets.	Chapman
167.	L.	Allendale street, south side, midway.	Chapman
168.	L.	N. W. corner Chestnut and Allendale streets.	Chapman
169.	L.	S. W. corner Chestnut and Bancroft streets.	Chapman
170.	L.	Lexington avenue, N. W. corner Massasoit street.	Chapman
171.	L.	S. W. corner North and Bancroft streets.	Perkins
172.	L.	S. W. corner North street and Jefferson avenue.	Chapman
173.	L.	N. W. corner Montmorenci and Massasoit streets.	Chapman
174.	L.	Montmorenci street, north side, midway.	Chapman
175.	L.	N. W. corner Chestnut street and Jefferson avenue.	Chapman
176.	L.	Calhoun street, north side, at North.	Chapman
177.	L.	Alexander street, N. E. corner North.	Chapman
178.	L.	S. W. corner Chestnut and Waverly streets.	Chapman
179.	L.	Chestnut street, west side, near Springfield.	Chapman
180.	H.	Merwin street, N. W. corner Chestnut, S. con.	Chapman
181.	H.	Eagle street, N. W. corner Chestnut, S. con.	Chapman
182.	H.	Springfield street, opposite city hospital, 6″, S. con.	Chapman
183.	H.	Atwater terrace, north side, end of pipe.	Chapman
184.	H.	Rimmon avenue, south side, end of pipe.	Perkins
185.	H.	Rimmon avenue, S. W. corner Gladwood.	Perkins
186.	H.	Springfield street, S. W. corner Armory.	Perkins
187.	H.	N. E. corner Carew and Armory streets.	Chapman
188.	H.	Cleveland street, N. E. corner Armory, 6″, S. con.	Chapman
189.	H.	Cleveland street, N. W. corner Liberty, 6″, S. con.	Chapman
190.	H.	Sullivan street, N. E. corner Armory, 6″, S. con.	Chapman
191.	H.	S. E. corner Liberty and Armory streets.	Chapman
192.	H.	Liberty street, (about 500 feet W. of Armory street), 6″, S. con.	Chapman

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No.	High or Low.	Location.	Make.
193.	H.	—Liberty street, front of Gurdon Bill's, 6″, S. con.	Chapman
194.	H.	—S. W. corner Liberty street and Heywood avenue.	Chapman
195.	H.	—Liberty street, south side, opposite Webster.	Chapman
196.	H.	—N. E. corner Liberty and Vinton streets.	Chapman
197.	H.	—Vinton street, S. E. corner Franklin.	Chapman
198.	H.	—Cass street, S. E. corner Franklin.	Chapman
199.	H.	—Liberty street, south side, opposite Cass.	Chapman
200.	L.	—Liberty street, south side, front of R. F. Hawkins's shops.	Perkins
201.	H.	—Liberty street, north side, front of No. 200.	Chapman
202.	H.	—S. E. corner Liberty and Charles streets.	Chapman
203.	L.	—Charles street, west side, midway between Franklin and Liberty streets.	Ayers
204.	H.	—Charles street, west side, near B. & A. freight house.	Chapman
205.	H.	—S. E. corner Chestnut and Liberty streets.	Chapman
206.	H.	—N. E. corner Chestnut and Charles streets.	Chapman
207.	H.	—S. W. corner Chestnut and Liberty streets.	Chapman
208.	H.	—N. W. corner Chestnut and Liberty streets, 6″, S. con.	Chapman
209.	L.	—Liberty street, north side, opposite Day & Jobson's planing mill.	Perkins
210.	H.	—Liberty street, south side, front of depot.	Chapman
211.	L.	—Liberty street, south side, opposite No. 74.	Chapman
212.	L.	—Liberty street, south side, east of Cooley's hotel.	Chapman
213.	H.	—Liberty street, south side, east of Cooley's hotel.	Chapman
214.	L.	—Liberty street, S. E. corner Main, 6″, S. con.	Chapman
215.	H.	—S. E. corner Main and Liberty streets.	*Matthews
216.	H.	—Main street, east side, just north of arch.	Chapman
217.	L.	—Railroad row, S. W. corner Main street, 6″, S. con.	Chapman
218.	L.	—S. E. corner Water street and Railroad row.	Matthews
219.	H.	—S. E. corner Water and Hampden streets.	Perkins
220.	H.	—Hampden street, north side, midway.	Perkins
221.	L.	—S. W. corner Main and Hampden streets, 6″, S. con.	Chapman
222.	L.	—Fort street, south side, midway.	Chapman
223.	L.	—S. E. corner Water and Fort streets.	Chapman
224.	L.	—S. W. corner Main and Worthington streets.	Chapman
225.	L.	—N. W. corner Main and Bridge streets.	Chapman
226.	H.	—Bridge street, north side, opposite Bond place.	Chapman
227.	H.	—Bond place, west side, south end.	Chapman
228.	H.	—Bridge street, south side, front of No. 43.	Matthews

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No.	High or Low.	Location.	Make.
229.	L.	—N. E. corner Water and Bridge streets.	Chapman
230.	H.	—N. W. corner Water and Bridge streets.	Chapman
231.	L.	—Wight avenue, north side, at end of avenue.	Chapman
232.	L.	—N. E. corner Water and Vernon streets.	Chapman
233.	L.	—Vernon street, north side, midway.	Chapman
234.	H.	—N. W. corner Main and Vernon streets.	Matthews
235.	L.	—Main street, west side, front of No. 360, 6″, S. con.	Chapman
236.	L.	—Main street, west side, front of No. 388, 6″, S. con.	Chapman
237.	L.	—S. W. corner Main and Vernon streets.	Chapman
238.	H.	—N. W. corner Main and Pynchon streets.	Matthews
239.	L.	—S. W. corner Main and Pynchon streets.	Chapman
240.	H.	—Pynchon street, south side, front of park.	Chapman
241.	H.	—City Hall avenue, west side, midway.	Chapman
242.	L.	—N. E. corner Water and Pynchon streets.	Chapman
243.	L.	—Court street, south side, near Water.	Chapman
244.	L	—Court street, south side, midway.	Chapman
245.	H.	—Court street, south side, opposite City Hall, 6″.	Perkins
246.	L.	—N. W. corner Main and Court streets, 6″, S. con.	Chapman
247.	H.	—S. W. corner Main and Court streets.	Chapman
248.	H.	—N. W. corner Main and Elm streets, 6″.	Perkins
249.	L.	—S. W. corner Main and Elm streets, 6″, S. con.	Chapman
250.	H.	—Elm street, S. W. corner Court square.	Chapman
251.	L.	—Elm street, south side, midway.	Chapman
252.	L.	—N. E. corner Water and Elm streets.	Chapman
253.	H.	—State street, west of N. Y., N. H. & H. R. R.	Chapman
254.	H.	—N. E. corner Water and State streets, 6″.	Perkins
255.	L.	—S. E. corner Water and State streets.	Chapman
256.	H.	—State street, north side, front of No. 52, 6″, S. con.	Chapman
257.	L.	—State street, south side, front of No. 71, 6″, S. con.	Chapman
258.	H.	—State street, north side, near Court House.	Chapman
259.	L.	—S. W. corner Main and State streets.	Chapman
260.	H.	—N. W. corner Main and Bliss streets.	Chapman
261.	L.	—S. W. corner Main and Bliss streets, 6″, S. con.	Chapman
262.	L.	—Bliss street, south side, front of No. 29.	Chapman
263.	L.	—Bliss street, south side, front of Nos. 57–59.	Chapman
264.	H.	—Water street, N. E. corner Bliss.	Chapman
265.	L.	—N. E. corner Water and Bliss streets.	Chapman
266.	H.	—Howard street, north side, near N. Y., N. H. & H. R. R.	Chapman
267.	L.	—Howard street, south side, near R. R.	Perkins
268.	H.	—Water street, N. E. corner Howard.	Chapman

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No.	High or Low.	Location.	Make.
269.	L.	N. W. corner Water and Howard streets.	Chapman
270.	L.	Howard street, south side, front of No. 43.	Perkins
271.	H.	N. W. corner Main and Howard streets.	Chapman
272.	L.	S. W. corner Main and Howard streets.	Chapman
273.	L.	S. W. corner Main and Union streets.	Chapman
274.	L.	Union street, south side, midway between Main and Water streets.	Chapman
275.	H.	Union street, north side, midway Main and Water streets.	Chapman
276.	L.	S. E. corner Water and Union streets.	Chapman
277.	L.	Wilcox street, north side, near R. R.	Chapman
278.	L.	S. E. corner Water and Wilcox streets.	Chapman
279.	L.	Wilcox street, south side, front of No. 47.	Chapman
280.	H.	N. W. corner Main and Wilcox streets.	Chapman
281.	L.	S. W. corner Main and Wilcox streets.	Chapman
282.	L.	S. W. corner Main and William streets.	Chapman
283.	L.	William street, north side, front of No. 120.	Chapman
284.	L.	William street, north side, opposite No. 83.	Chapman
285.	L.	N. W. corner Water and William streets.	Perkins
286.	L.	William street, north side, near R. R.	Perkins
287.	L.	Margaret street, north side, near R. R.	Chapman
288.	L.	N. E. corner Water and Margaret streets.	Chapman
289.	L.	Margaret street, south side, opposite Nos. 42–44.	Chapman
290.	H.	N. W. corner Main and Margaret streets.	Chapman
291.	L.	S. W. corner Main and Margaret streets.	Chapman
292.	L.	S. W. corner Main and Fremont streets.	Chapman
293.	L.	Fremont street, south side, front of No. 41.	Chapman
294.	L.	N. E. corner Water and Fremont streets.	Chapman
295.	L.	Whitney avenue, north side, end of avenue.	Chapman
296.	H.	Water street, west side, near Loring.	Chapman
297.	H.	Loring street, north side, front of No. 34.	Chapman
298.	H.	N. W. corner Main and Loring streets.	Chapman
299.	L.	Lombard street, north side, opposite No. 25.	Chapman
300.	H.	S. W. corner Water and Walker streets.	Chapman
301.	H.	Walker street, south side, near Walker's shop.	Chapman
302.	L.	Walker street, north side, midway, 6″, S. con.	Chapman
303.	H.	Walker street, south side, near R. R.	Chapman
304.	H.	S. E. corner Gardner and Hanover streets.	Chapman
305.	L	Gardner street, north side, front of No. 96.	Chapman
306.	H	Gardner street, south side, opposite Gardner avenue.	Chapman

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No.	High or Low.	Location.	Make.
307.	L.	N. E. corner Water and Gardner streets.	Perkins
308.	L.	N. E. corner Hanover and Norwood streets.	Perkins
309.	L.	Norwood street, south side, midway.	Chapman
310.	L.	N. W. corner Main and Norwood streets.	Chapman
311.	L.	S. W. corner Main and Broad streets.	Matthews
312.	L.	S. E. corner Hanover and Broad streets.	Matthews
313.	H.	Hanover street, east side, near Broad.	Chapman
314.	L.	Elmwood street, north side, near Barney & Berry's shop.	Chapman
315.	H.	N. W. corner Hanover and York streets.	Chapman
316.	L.	York street, north side, front of schoolhouse.	Chapman
317.	L.	N. W. corner Main and York streets.	Perkins
318.	H.	Main street, east side, opposite No. 962.	Matthews
319.	H.	South street, east side, opposite No. 5.	Chapman
320.	H.	S. E. corner South and Long Hill streets.	Chapman
321.	H.	South street, east side, below Long hill, 6″, S. con.	Chapman
322.	H.	South street, east side, at south end bridge, 6″, S. con.	Chapman
323.	H	Long Hill street, east side, near brick yard.	Chapman
324.	H.	Warner place, north side, midway, 6″, S. con.	Chapman
325.	H.	Maplewood terrace, N. E. corner Fort Pleasant avenue, 6″, S. con.	Chapman
326.	H.	Long Hill street, east side, north of Sumner avenue.	Chapman
327.	H.	N. E. corner Long Hill street and Sumner avenue.	Chapman
328.	H.	Long Hill street, east side, near schoolhouse.	Chapman
329.	H.	Spruceland avenue, north side, opposite Smith's.	Perkins
330.	H.	Spruceland avenue, S. W. corner Magnolia terrace.	Chapman
331.	H.	Magnolia terrace, end of pipe.	Chapman
332.	H.	Firglade avenue, east side.	Chapman
333.	H.	Hawthorn place, east side.	Chapman
334.	H.	S. E. corner Sumner and Firglade avenues.	Chapman
335.	H.	S. E. corner Sumner avenue and Hawthorn place.	Chapman
336.	H.	Magnolia terrace, at Sumner avenue.	Chapman
337.	H.	N. W. corner Sumner and Fort Pleasant avenues.	Chapman
338.	H.	Maplewood terrace, north side, midway, S. con.	Chapman
339.	H.	Maplewood terrace, N. W. corner Park avenue.	Chapman
340.	H.	N. E. corner Forest and Garfield streets.	Chapman
341.	H.	Park avenue, N. E. corner Sumner,	Chapman
342.	H.	Greenleaf street, N. E. corner Sumner avenue.	Chapman
343.	H.	Sumner avenue, south side, at Forest park, 6″, S. con.	Chapman

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No.	High or Low.	Location.	Make.
344.	H.	—Churchill street, N. E. corner Sumner avenue.	Chapman
345.	H.	—Churchill street, S. E. corner Garfield.	Chapman
346.	H	—Greenleaf street, S. E. corner Garfield.	Chapman
347.	H.	—Fairfield street, north side, midway.	Chapman
348.	H.	—Litchfield street, at end.	Chapman
349.	H.	—S. E corner Belmont avenue and Litchfield street.	Chapman
350.	H.	—N. W. corner Belmont avenue and Oakland street.	Chapman
351.	H.	—Kenwood park, N. W. corner Belmont avenue, 6″.	Chapman
352.	H.	—Sumner avenue, S. W. corner Belmont.	Chapman
353.	H.	—Cliftwood avenue, 6″, S. con.	Chapman
354.	H.	—Lenox street, 6″, S. con.	Chapman
355.	H.	—Sumner avenue, south side, east of the "X," 6″, S. con.	Chapman
356.	H.	—Granada terrace, in grass plot.	Chapman
357.	H	—Granada terrace, N. E. corner Dickinson, 6″, S. con.	Chapman
358.	H.	—Kenwood park, west side, midway, 6″.	Chapman
359.	H.	—Kenwood park, S. W. corner Dickinson, 6″.	Chapman
360.	H.	—Johnson street, end of pipe.	Perkins
361.	H.	—Johnson street, 6″.	Chapman
362.	H.	—Oakland street, N. W. corner Dickinson.	Chapman
363.	H.	—Hall street, N. W. corner Dickinson.	Chapman
364.	H.	—Hall street, west side, midway.	Chapman
365.	H.	—N. E. corner Belmont avenue and Hall street.	Chapman
366.	H.	—Forest street, east side.	Chapman
367.	H.	—N E. corner Belmont avenue and Keith street.	Chapman
368.	H.	—Keith street, north side, front of No. 51.	Chapman
369.	H.	—N. W. corner Keith and Dickinson streets.	Chapman
370.	H.	—Euclid avenue, N. W corner Dickinson street.	Chapman
371.	H.	—Euclid avenue, north side, midway.	Chapman
372.	H.	—Belmont avenue, east side, opposite No. 134.	Chapman
373.	H	—Belmont avenue, east side, north of Euclid.	Chapman
374.	H.	—LaVerne avenue, S. E. corner Bellevue.	Perkins
375.	H.	—Kenwood avenue, S. E. corner Bellevue.	Chapman
376.	H.	—Bellevue avenue, S. W. corner Dickinson street.	Chapman
377.	H.	—Woodside avenue, 6″, S. con.	Chapman
378.	H.	—Park avenue, N. E. corner Fort Pleasant.	Chapman
379.	H.	—Belmont avenue, west side, at Fort Pleasant avenue.	Chapman
380.	H.	—Mill street, south side, midway between Locust and Main streets.	Matthews
381.	H.	—Mill street, north side, opposite Howard's waste mill.	Perkins

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No.	High or Low.	Location.	Make.
382.	H.	Pine street, north side, at Mill.	Perkins
383.	H.	Warriner avenue, north side, end of pipe.	Chapman
384.	L.	Main street, east side, at Locust.	Matthews
385.	H.	Main street, N. E. corner Acushnet avenue, 6″.	Chapman
386.	L.	Acushnet avenue, north side, midway.	Chapman
387.	L.	Acushnet avenue, north side, end of pipe.	Chapman
388.	H.	Main street, N. E. corner Rutledge avenue, 6″.	Chapman
389.	L.	Rutledge avenue, north side, midway.	Perkins
390.	L.	Wendell avenue, 6″, S. con.	Chapman
391.	H.	Main street, east side, opposite Broad, 6″.	Chapman
392.	H.	Main street, N. E. corner Marble, 6″.	Chapman
393.	L.	Marble street, N. E. corner Main, 6″.	Chapman
394.	L.	Marble street, north side, midway, 6″.	Chapman
395.	L.	Marble street, north side, end of pipe, 6″.	Chapman
396.	H.	Main street, east side, opposite Gardner, 6″.	Chapman
397.	L.	Main street, east side, opposite Gardner.	Perkins
398.	H.	Main street, east side, front of No. 739, 6″.	Chapman
399.	H.	Main street, east side, opposite Lombard, 6″.	Chapman
400.	H.	Main street, S. E. corner Adams, 6″.	Chapman
401.	L.	Adams street, south side, midway.	Chapman
402.	L.	Ashmun street, east side, opposite Adams.	Chapman
403.	H.	N. E. corner Main and Central streets.	Chapman
404.	L.	Central street, north side, opposite No. 63, 6″, S. con.	Chapman
405.	H.	N. E. corner Main and Morris streets.	Chapman
406.	L.	Morris street, north side, opposite No. 40.	Chapman
407.	L.	Morris street, east end, at angle.	Chapman
408.	L.	Winthrop street, north side, midway.	Chapman
409.	H.	N. E. corner Main and Winthrop streets.	Chapman
410.	H.	N. E. corner Main and William streets.	Chapman
411.	H.	William street, south side, midway between Main and Dale streets.	Chapman
412.	L.	N. W. corner William and Dale streets.	Chapman
413.	H.	N. E. corner Willow street and Hubbard avenue.	Perkins
414.	H.	S. E. corner Main street and Hubbard avenue.	Chapman
415.	H.	N. E. corner Main and Union streets.	Chapman
416.	H.	N. E. corner Union and Willow streets.	Perkins
417.	L.	S. E. corner Union and Dale streets.	Chapman
418.	H.	S. W. corner Park and Willow streets.	Perkins
419.	H.	N. E. corner Main and Park streets.	Chapman
420.	H.	S. E. corner Main and Cross streets.	Chapman

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No.	High or Low.	Location.	Make.
421.	H.	N. E. corner Willow and Cross streets.	*Matthews
422.	H.	Cross street, south side, midway between Maple and Willow streets.	Chapman
423.	H.	S. E. corner Main street and Crossett avenue.	Chapman
424.	H.	S. E. corner Main and Stockbridge streets.	Chapman
425.	L.	Stockbridge street, S. W. corner Willow, 6″, S. con.	Chapman
426.	H.	N. E. corner Willow and Stockbridge streets.	*Matthews
427.	H.	Stockbridge street, south side, just west of Smith & Wesson's shop.	Perkins
428.	H.	Stockbridge street, south side, just east of Smith & Wesson's shop.	Perkins
429.	H.	S. E. corner State and Willow streets.	Perkins
430.	L.	State street, S. W. corner Willow, 6″, S. con.	Chapman
431.	H.	N. E. corner State and Dwight streets.	Chapman
432.	L.	N. W. corner State and Dwight streets.	Chapman
433.	H.	N. W. corner State and Market streets.	Chapman
434.	H.	N. E. corner State and Main streets.	*Matthews
435.	H.	N. E. corner Main and Sanford streets, 6″, S. con.	Chapman
436.	L.	S. W. corner Market and Sanford streets.	Chapman
437.	L.	Sanford street, north side, midway between Market and Dwight streets.	Chapman
438.	H.	Sanford street, north side, near Dwight.	Perkins
439.	H.	Sanford street, N. E. corner Market, 6″, S. con.	Chapman
440.	L.	S. W. corner Dwight and East Court streets.	Chapman
441.	H.	N. W. corner Dwight and East Court streets.	Perkins
442.	L.	Dwight street, S. W. corner New, 6″, S. con.	Chapman
443.	H.	N. W. corner East Court and New streets.	Chapman
444.	H.	S. W. corner East Court and Market streets.	Chapman
445.	H.	S. E. corner Main and East Court streets.	Matthews
446.	H.	Main street, east side, front of No. 445, 6″, S. con.	Chapman
447.	H.	Main street, east side, front of No. 415, 6″, S. con.	Chapman
448.	H.	N. E. corner Main street and Townsley avenue.	Matthews
449.	H.	Main street, east side, opposite Pynchon.	Matthews
450.	H.	N. W. corner Market street and Townsley avenue.	Chapman
451.	L.	S. W. corner Harrison avenue and Market street.	Chapman
452.	H.	S. E. corner Main street and Harrison avenue.	Chapman
453.	H.	Main street, east side, opposite Vernon.	Matthews
454.	H.	Harrison avenue, N. E. corner Main street, 6″.	Perkins
455.	H.	Harrison avenue, north side, opposite Market street, 6″.	Chapman
456.	H.	Harrison avenue, north side, front of No. 44, 6″.	Perkins

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No.	High or Low.	Location.	Make.
457.	H.	Harrison avenue, south side, front of No. 37, 6″.	Perkins
458.	H.	Harrison avenue, N. W. corner Dwight, 6″.	Chapman
459.	L.	S. W. corner Harrison avenue and Dwight street.	Chapman
460.	H.	N. E. corner Harrison avenue and Dwight street.	Perkins
461.	H.	Dwight street, front of No. 109, 6″, S. con.	Chapman
462.	L.	S. W. corner Dwight and Hillman streets.	Chapman
463.	H.	N. W. corner Dwight and Hillman streets.	Chapman
464.	H.	Hillman street, N. W. corner Barnes, 6″, S. con.	Chapman
465.	H.	Hillman street, south side, midway.	Chapman
466.	H.	N. E. corner Main and Hillman streets.	*Matthews
467.	H.	N. E. corner Main and Bridge streets.	Chapman
468.	L.	Bridge street, S. E. corner Barnes, 6″, S. con.	Chapman
469.	L.	Bridge street, north side, at Stearns park.	Chapman
470.	L.	Dwight street, S. W. corner Bridge, 6″, S. con.	Chapman
471.	H.	N. E. corner Bridge and Dwight streets.	*Perkins
472.	L.	S. E. corner Worthington and Dwight streets, 6″, S. con.	Chapman
473.	H.	N. W. corner Worthington and Dwight streets.	Chapman
474.	H.	S. E. corner Worthington street and Stearns avenue.	Chapman
475.	L.	Worthington street, south side, front of No. 99.	Chapman
476.	H.	N. E. corner Main and Worthington streets.	Chapman
477.	H.	Main street, east side, opposite Fort.	Chapman
478.	H.	N. E. corner Main and Taylor streets.	Matthews
479.	H.	Taylor street, south side, front of No. 23.	Matthews
480.	H.	Taylor street, north side, opposite No. 51.	Matthews
481.	H.	N. E. corner Taylor and Dwight streets.	Perkins
482.	H.	S. E. corner Lyman and Dwight streets.	Perkins
483.	L.	Lyman street, north side, opposite Dwight.	Chapman
484.	H.	Lyman street, south side, front of No. 53.	Perkins
485.	L.	Lyman street, north side, opposite Nos. 39-43.	Chapman
486.	H.	Lyman street, north side, opposite Nos. 27-31.	Perkins
487.	H.	N. E. corner Main and Lyman streets.	Matthews
488.	H.	Lyman street, S. E. corner Main, 6″, S. con.	Chapman
489.	H.	Main street, east side, opposite Hampden.	Matthews
490.	H.	Main street, east side, just south of arch.	Chapman
491.	H.	N. E. corner Chestnut and Lyman streets.	Chapman
492.	H.	Chestnut street, S. W. corner Lyman, 6″.	Chapman
493.	H.	Lyman street, north side, midway between Spring and Chestnut streets.	Chapman
494.	L.	S. E. corner Chestnut and Lyman streets.	Perkins

Digitized by Google

No.	High or Low.	Location.	Make.
495.	H.	N. E. corner Chestnut and Taylor streets.	Chapman
496.	L.	Chestnut street, east side, opposite Taylor, 6″, S. con.	Chapman
497.	H.	N. W. corner Chestnut and Taylor streets.	Chapman
498.	H	N. E. corner Chestnut and Worthington streets.	Chapman
499.	L.	S. W. corner Chestnut and Worthington streets.	Chapman
500.	H.	Chestnut street, S. W. corner Worthington, 6″.	Chapman
501.	L	Chestnut street, east side, near Bridge.	Chapman
502.	H.	Chestnut street, N. W. corner Bridge, 6″.	Chapman
503.	L.	S. E. corner Chestnut and Pearl streets.	Chapman
504.	H.	Chestnut street, west side, opposite Pearl, 6″.	Chapman
505.	H.	Chestnut street, west side, opposite Mattoon, 6″.	Chapman
506.	H.	Chestnut street, N. W. corner Harrison avenue, 6″.	Chapman
507.	H.	Chestnut street, west side, opposite Edwards, 6″.	Chapman
508.	L.	Edwards street, north side, opposite No. 37.	Perkins
509.	L	Chestnut street, west side, opposite No. 55.	Chapman
510.	H.	Chestnut street, west side, opposite No. 49, 6″.	Chapman
511.	H.	Chestnut street, west side, opposite Christ church.	Perkins
512.	H.	N. E. corner State and Chestnut streets, 6″, S. con.	Chapman
513.	H.	State street, north side, near City Library.	Perkins
514.	H.	State street, north side, at cathedral, 6″, S. con.	Chapman
515.	H.	N. W. corner State and Elliott streets.	Matthews
516.	L	Elliott street, west side, front of convent.	Chapman
517.	H.	N. W. corner State and Spring streets.	Matthews
518.	H.	N. E. corner Spring and Frost streets.	Chapman
519.	L.	S. W. corner Spring and Salem streets.	Ayers
520.	H.	Spring street, east side, opposite Salem, 6″.	Perkins
521.	L.	S. E. corner Salem and Elliott streets.	Ayers
522.	H.	Salem street, north side, opposite Elliott.	Chapman
523.	L.	Pearl street, north side, opposite Salem.	Chapman
524.	H.	S. E. corner Pearl and Spring.	Chapman
525.	H.	Pearl street, north side, at Byers.	Chapman
526.	H.	Pearl street, north side, at angle.	Chapman
527.	H.	Pearl street, north side, front of No. 242.	Brown
528.	H	N. W. corner Pearl and Federal streets.	Chapman
529.	H.	N. E. corner Worthington and Federal streets.	Perkins
530.	H.	Worthington street, north side, opposite No. 485.	Chapman
531.	H.	N. E. corner Worthington street and Kibbe avenue.	Chapman
532.	H.	Worthington street, north side, opposite Sackett avenue.	Chapman

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No.	High or Low.	Location.	Make.
533.	L.	S. W. corner Worthington street and Sackett avenue.	Perkins
534.	H.	Worthington street, north side, opposite No. 377.	Chapman
535.	H.	N. E. corner Worthington and Autumn streets.	Chapman
536.	H.	Worthington street, north side, opposite school-house.	Chapman
537.	L.	S. W. corner Worthington and Spring streets.	Ayers
538.	H.	N. E. corner Worthington and Spring streets.	Chapman
539.	H.	N. E. corner Worthington and Alert streets.	Chapman
540.	H.	N. E. corner Spring and Summer streets.	Chapman
541.	L.	Lyman street, south side, front of Gilbert & Barker's shop.	Chapman
542.	H.	Lyman street, north side, at Spring.	Chapman
543.	H.	Summer Street, north side, opposite Autumn.	Perkins
544.	L.	Summer street, south side, front of No. 103.	Perkins
545.	L.	Summer street, south side, front of No. 147.	Perkins
546.	H.	Summer street, S. E. corner Kibbe avenue, 6″.	Chapman
547.	H.	Summer street, S. W. corner Federal, 6″.	Chapman
548.	H.	Armory street, N. of B. & A. R. R., 6″, S. con.	Chapman
549.	H.	Armory street, east side, at paint shops.	Chapman
550.	H.	Worthington street, N. W. corner Armory, 6″, S. con.	Chapman
551.	H.	N. E. corner Armory and Grant streets.	Chapman
552.	H.	Federal street, west side, at Armory gate.	Matthews
553.	H.	N. E. corner Federal and Lincoln streets.	Perkins
554.	H.	Lincoln street, N. W. corner Magazine, S. con.	Chapman
555.	H.	N. W. corner Magazine and Grant streets.	Chapman
556.	H.	S. E. corner Armory and Magazine streets.	Chapman
557.	H.	Worthington street, south side, midway Armory and Bowdoin, 6″, S. con.	Chapman
558.	H.	S. E. corner Worthington and Bowdoin streets.	Perkins
559.	H.	S. E. corner Bowdoin street and Ingersoll grove.	Chapman
560.	H.	Ingersoll grove, east side, at angle.	Chapman
561.	H.	S. W. corner Florida and Worthington streets.	Matthews
562.	H.	S. E. corner Worthington and Thompson streets.	Chapman
563.	H.	Thompson street, east side, midway between St. James avenue and Worthington street.	Chapman
564.	H.	Dartmouth terrace, east side, front of No. 45.	Chapman
565.	H.	S. W. corner Harvard street and St. James avenue.	Chapman
566.	H.	S. E. corner Harvard and Cornell streets.	Chapman

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No.	High or Low.	Location.	Make.
596.	H.	N. E. corner State and Pleasant streets.	Perkins
597.	H.	N. E. corner State and Westminster streets.	Perkins
598.	H.	Buckingham street, east side, front of No. 69.	Chapman
599.	H.	N. E. corner Sherman and State streets.	Perkins
600.	H.	S. E. corner Sherman and McKnight streets.	Chapman
601.	H.	S. E. corner Sherman and Bay streets.	Chapman
602.	H.	S. E. corner Catherine and Bay streets.	Chapman
603.	H.	N. E. corner Catherine and McKnight streets.	Chapman
604.	H.	Catherine street, east side, front of No. 71.	Chapman
605.	H.	Catherine street, east side, front of No. 37.	Chapman
606.	H.	State street, south side, at Winchester park engine house.	Chapman
607.	H.	State street, north side, at N. E. R. R., 6″, S. con.	Chapman
608.	H.	Chapin street, east side, midway.	Chapman
609.	H.	Marion street, west side, south end.	Chapman
610.	H.	N. E. corner Bowles and McKnight streets.	Chapman
611.	H.	Bowles street, east side, midway between Bay and McKnight streets.	Chapman
612.	H.	S. E. corner Bowles and Bay streets.	Chapman
613.	H.	Marion street, east side, midway.	Chapman
614.	H.	N. W. corner McKnight street and Girard avenue.	Chapman
615.	H.	S. E. corner Bay street and Girard avenue.	Chapman
616.	H.	Clifford street, south side, midway.	Chapman
617.	H.	Bay street, south side, front of No. 401.	Chapman
618.	H.	Dawes street, west side, midway.	Chapman
619.	H.	S. E. corner Bay street and Oak Grove avenue.	Chapman
620.	H.	Cambridge street, east side, front of No. 45.	Chapman
621.	H.	Cambridge street, east side, opposite No. 84.	Chapman
622.	H.	Andrew street, east side, midway.	Chapman
623.	H.	Hayden street, east side, midway.	Perkins
624.	H.	N. E. corner State and Andrew streets.	Perkins
625.	H.	Montrose street, east side, midway, 6″.	Chapman
626.	H.	Maple dell, N. E. corner State street, 6″, S. con.	Chapman
627.	H.	Maple dell, S. E. corner Burr street, S. con.	Chapman
628.	H.	Oak Grove avenue, west side, end of pipe, 6″, S. con.	Chapman
629.	H.	College avenue, S. E. corner Shattuck.	Chapman
630.	H.	College avenue, east side, midway.	Chapman
631.	H.	State street, north side, opposite No. 1029.	Chapman
632.	H.	Maynard avenue, west side, near State street.	Chapman
633.	H.	Willard avenue, west side, near Shattuck street.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
634.	H.	Cortland street, west side, midway.	Chapman
635.	H.	Dresden avenue, east side, midway, 6″, S. con.	Chapman
636.	H.	State street, north side, front of No. 1090.	Chapman
637.	H.	State street, north side, west of Carlisle brook.	Chapman
638.	H.	S. E. corner State and Benton streets.	Chapman
639.	H.	State street, north side, front of Alden Warner's.	Chapman
640.	H.	Norfolk street, S. E. corner Wilbraham road.	Chapman
641.	H.	Norfolk street, east side, end of pipe.	Chapman
642.	H.	Suffolk street, east side, end of pipe.	Chapman
643.	H.	Middlesex street, corner Wilbraham road.	Chapman
644.	H.	Reed street, corner Wilbraham road.	Chapman
645.	H.	N. E. corner Wilbraham road and College street.	Chapman
646.	H.	Northampton street, S. E. corner Wilbraham road.	Chapman
647.	H.	Northampton street, east side, midway.	Chapman
648.	H.	Northampton street, at south end.	Chapman
649.	H.	Wilbraham avenue, east side, at end of pipe, 6″, S. con.	Chapman
650.	H.	Wilbraham avenue, east side, opposite National Photo-Paper and Chemical Co.	Perkins
651.	H.	Wilbraham avenue, east side, north of Beverly street.	Chapman
652.	H.	Wilbraham avenue, east side, front of No. 25.	Chapman
653.	H.	S. E. corner Waltham avenue and Wilbraham road.	Chapman
654.	H.	S. W. corner Colton street and Wilbraham road.	Chapman
655.	H.	S. W. corner Wilbraham road and Eastern avenue.	Chapman
656.	H.	S. E. corner State and Winchester streets.	Chapman
657.	H.	S. E. corner State and Hancock streets.	Perkins
658.	H.	N. E. corner Monroe and Hancock streets.	Chapman
659.	H.	Monroe street, north side, front of No. 72.	Perkins
660.	H.	N. W. corner Monroe street and Eastern avenue.	Chapman
661.	H.	N. W. corner Monroe and Colton streets.	Chapman
662.	H.	S. W. corner Colton and Union streets.	Chapman
663.	H.	S. W. corner Union street and Eastern avenue.	Chapman
664.	H.	Union street, south side, front of No. 709.	Chapman
665.	H.	Union street, south side, front of No. 660.	Chapman
666.	H.	S. E. corner Union and Hancock streets.	Matthews
667.	H.	Quincy street, north side, front of No. 181.	Chapman
668.	H.	Quincy street, north side, front of No. 230.	Chapman
669.	H.	N. W. corner Quincy street and Eastern avenue.	Chapman
670.	H.	N. W. corner Quincy and Colton streets.	Chapman
671.	H.	N. W. corner Tyler and Colton streets.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
672.	H.	S. W. corner Tyler street and Eastern avenue.	Chapman
673.	H.	Tyler street, north side, front of No. 220.	Chapman
674.	H.	Tyler street, north side, opposite No. 183.	Chapman
675.	H.	Pendleton avenue, north side, opposite No. 163.	Chapman
676.	H.	Pendleton avenue, north side, opposite No. 209.	Chapman
677.	H.	N. W. corner Pendleton and Eastern avenues.	Chapman
678.	H.	Beacon street, south side at Colton.	Chapman
679.	H.	King street, N. W. corner Logan.	Chapman
680.	H.	N. W. corner Eastern avenue and King street.	Chapman
681.	H.	King street, north side, front of No. 184.	Chapman
682.	H.	King street, north side, opposite Nelson avenue.	Chapman
683.	H.	N. E. corner King and Hancock streets.	Matthews
684.	H.	N. W. corner Lebanon street and Nelson avenue.	Chapman
685.	H.	N. W. corner Lebanon street and Merrick avenue.	Chapman
686.	H.	Eastern avenue, east side, opposite Lebanon street.	Chapman
687.	H.	N. W. corner Granville and Logan streets.	Chapman
688.	H.	N. W. corner Olive and Logan streets.	Chapman
689.	H.	N. W. corner Ladd and Logan streets.	Chapman
690.	H.	Collins street, near N. W. corner Logan.	Chapman
691.	H.	N. W. corner Greene street and Eastern avenue.	Chapman
692.	H.	Greene street, north side, front of No. 88.	Chapman
693.	H.	N. W. corner Greene street and Nelson avenue.	Chapman
694.	H.	N. E. corner Greene and Hancock streets.	Matthews
695.	H.	Alden street, north side, front of No. 24.	Chapman
696.	H.	Alden street, north side, front of No. 86.	Chapman
697.	H.	N. W. corner Alden street and Eastern avenue.	Chapman
698.	H.	Alden street, N. W. corner Logan.	Perkins
699.	H.	Manhattan street, N. W. corner Eastern avenue.	Chapman
700.	H.	Manhattan street, north side, midway.	Chapman
701.	H.	N. E. corner Manhattan and Walnut streets.	Chapman
702.	H.	Walnut street, east side, opposite No. 396.	Matthews
703.	H.	Eastern avenue, S. W. corner Marshall place, 6″, S. con.	Chapman
704.	H.	Hickory street, north side, opposite Smith & Adams' slaughter-house.	Chapman
705.	H.	Melrose street, N. W. corner Eastern avenue, 5″, S. con.	Chapman
706.	H.	Melrose street, north side, midway, 5″, S. con.	Chapman
707.	H.	N. E. corner Hickory and Walnut streets.	Matthews
708.	H.	Allen street, north side, at White street.	Chapman
709.	H.	Allen street, north side, near chapel.	Chapman

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No.	High or Low.	Location.	Make.
710.	H.	—Allen street, north side, opposite No. 228.	Chapman
711.	H	—Allen street, north side, west of N. E. R. R.	Chapman
712.	H.	—Allen street, north side, just east of N. E. R. R.	Perkins
713.	H.	—Allen street, north side, midway Nos. 712-714.	Perkins
714.	H.	—Allen street, N. W. corner Plumtree road.	Chapman
715.	H.	—White street, west side, 900 feet south of Orange.	Chapman
716.	H.	—White street, west side, front of No. 74.	Chapman
717.	H.	—White street, west side, opposite chapel.	Chapman
718.	H.	—Orange street, south side, 380 feet west of White.	Chapman
719.	H.	—Oakland street, west side, opposite No. 46.	Chapman
720.	H	—Highland street, N. W. corner Orange.	Chapman
721.	H.	—Noel avenue, N. W. corner Shamrock.	Chapman
722.	H.	—Highland street, N. W. corner Shamrock avenue.	Chapman
723.	H.	—S. W. corner Highland and Allen streets.	Chapman
724.	H.	—S. W. corner Mill and Allen streets.	Chapman
725.	H.	—N. E. corner Mill and Central streets.	Matthews
726.	H.	—S. E. corner Hancock and Central streets.	Matthews
727.	H.	—Hancock street, west side, south of Central, at end.	Chapman
728.	H.	—Mill street, south side, opposite Maple.	Chapman
729.	H.	—Cherry street, north side, just west of No. 92.	Chapman
730.	H.	—Cherry street, north side, opposite No. 51.	Chapman
731.	H.	—N. W. corner Cherry and Central streets.	Chapman
732.	H.	—S. E. corner Spruce and Central streets.	Matthews
733.	H.	—Spruce street, east side, front of No. 34.	Perkins
734.	H.	—Hancock avenue, N. E. corner Spruce street, 6″, S. con.	Chapman
735.	H.	—Hancock avenue, north side, midway, S. con.	Chapman
736.	H.	—N. W. corner Hancock street and Hancock avenue.	Chapman
737.	H.	—N. W. corner Hancock and Hawthorn streets.	Chapman
738.	H.	—Hawthorn street, north side, midway.	Chapman
739.	H.	—S. W. corner Hancock and Florence streets.	Matthews
740.	H.	—S. W. corner Florence and Spruce streets.	Matthews
741.	H.	—Beech street, east side, midway.	Chapman
742.	H.	—Central street avenue, S. W. corner Central street, 6″, S. con.	Chapman
743.	H	—Foster court, west roadway.	Chapman
744.	H.	—Foster court, east roadway.	Chapman
745.	H.	—Central street, south side, front of No. 319.	Matthews
746	H.	—N. E. corner Pine and Central streets.	Perkins
747.	H.	—N. E. corner Pine and Cedar streets.	Matthews

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No.	High or Low.	Location.	Make.
748.	H.	—Ashley street, north side, opposite No. 49.	Chapman
749.	H.	—Ashley street, north side, front of No. 92.	Chapman
750.	H.	—N. W. corner Ashley and Walnut streets.	Chapman
751.	H.	—N. W. corner Cedar and Walnut streets.	Perkins
752.	H.	—N. W. corner Lebanon and Hancock streets.	Matthews
753.	H.	—Queen street, north side, opposite No. 43.	Chapman
754.	H.	—N. W. corner Walnut and James streets.	Matthews
755.	H.	—James street, west side, midway.	Chapman
756.	H.	—King street, north side, midway between Hancock and Walnut streets.	Chapman
757.	H.	—N. W. corner Hancock street and Pendleton avenue.	Perkins
758.	H.	—N. E. corner Pendleton avenue and Orleans street.	Chapman
759.	H.	—N. E. corner Tyler and Orleans streets.	Perkins
760.	H.	—Tyler street, north side, front of Blake Mfg. Co's shop.	Perkins
761.	H.	—N. W. corner Hancock and Tyler streets.	Matthews
762.	H	—N. W. corner Hancock and Quincy streets.	Chapman
763.	H	—N. E. corner Quincy and Stebbins streets.	Chapman
764.	H.	—N. W. corner Quincy and Orleans streets.	Chapman
765.	H.	—N. E. corner Quincy and Oak streets.	Perkins
766.	H.	—S. W. corner Oak street and Charter avenue.	Chapman
767.	H.	—N. E. corner Union and Orleans streets.	Perkins
768.	H.	—N. W. corner Union and Stebbins streets.	Perkins
769.	H.	—Terrence street, east side, midway.	Matthews
770.	H.	—S. E. corner State and Orleans streets.	Matthews
771.	H.	—Lillian street, north side, opposite No. 17.	Chapman
772.	H.	—State street, north side, midway Benton park.	Perkins
773.	H.	—S. E. corner State and Walnut streets.	*Matthews
774.	H.	—N. E. corner Walnut street and Charter avenue.	Perkins
775.	H.	—State street, north side, opposite Woodworth avenue, 6″, S. con.	Chapman
776.	H.	—State street, north side, near Olivet church.	Matthews
777.	H.	—S. W. corner High street and Ingraham avenue.	Perkins
778.	H.	—Union street, north side, opposite Mulberry.	Perkins
779.	H.	—S. W. corner Walnut and Union streets.	Perkins
780.	H.	—Walnut street, east side, at Oak street.	Perkins
781.	H.	—S. E. corner Pendleton avenue and Walnut street.	Perkins
782.	H.	—Pine street, east side, opposite No. 55.	Chapman
783.	H.	—Pine street, east side, opposite No. 109.	Chapman
784.	H.	—Madison avenue, east side, north end.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
785.	H.	—Central street, at Stearns terrace, 6″.	Chapman
786.	H.	—S. E. corner Central and Cedar streets.	Matthews
787.	H.	—Pine street, north side, opposite No. 239.	Perkins
788.	H.	—N. W. corner Maple and Pine streets, 6″.	Perkins
789.	H.	—Maple avenue, 350 feet east of Maple street, 6″.	Chapman
790.	H.	—Maple street, east side, front of Mrs. S. J. Gordon's.	Matthews
791.	H.	—Central street, north side, east of Maple street.	Matthews
792.	H.	—N. E. corner Maple street and Avon place.	Chapman
793.	H.	—Avon place, north side, midway.	Chapman
794.	H.	—S. E. corner Maple and Mulberry streets.	Chapman
795.	H.	—N. E. corner School and Mulberry streets.	Perkins
796.	H.	—Ridgewood place, N. W. corner Mulberry street.	Chapman
797.	H.	—Ridgewood place, S. W. corner Union street.	Chapman
798.	H.	—N. E. corner Union and School streets.	Perkins
799.	H.	—N. E. corner Union and Maple streets.	Chapman
800.	H.	—Maple street, west side, opposite High street.	Chapman
801.	L.	—S. E. corner Maple and High streets.	Ayers
802.	H.	—N. E. corner High and School streets.	Perkins
803.	H.	—S. W. corner Maple and Stockbridge streets.	Perkins
804.	H.	—S. E. corner Maple and Temple streets.	Chapman
805.	H.	—Temple street, south side, front of No. 46.	Chapman
806.	H.	—S. W. corner School and Temple streets.	Chapman
807.	H.	—Myrtle street, east side, midway.	Perkins
808.	H.	—State street, south side, front of No. 345.	Perkins
809.	L.	—State street, south side, at High school, 6″, S. con.	Chapman
810.	L.	—State street, south side, at Unity church, 6″, S. con.	Chapman

* Replaced since December 1, 1896. Is now 6″ Chapman with steamer connection.

INDIAN ORCHARD.

1.	H.	—N. E. corner Berkshire and Chestnut streets.	Perkins
2.	H.	—Hampden street, S. E. corner Chestnut.	Chapman
3.	H.	—N. E. corner Berkshire and Myrtle streets.	Perkins
4.	H.	—N. W. corner Hampshire and Myrtle streets.	Chapman
5.	H.	—N. E. corner Hampshire and Oak streets.	Chapman
6.	H.	—Oak street, west side, near Essex, south.	Chapman
7.	H.	—Oak street, west side, near Essex, south of No. 596.	Chapman
8.	H.	—Oak street, west side, end of pipe.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
9.	H.	Pine street, at Chapman Valve works.	Chapman
10.	H.	N. W. corner Hampshire and Pine streets.	Chapman
11.	H.	S. W. corner Hampden and Oak streets.	Chapman
12.	H.	S. E. corner Hampden and Myrtle streets.	Perkins
13.	H.	S. W. corner Worcester and Myrtle streets.	Perkins
14.	H.	Worcester street, at engine-house, 6″.	Chapman
15.	H.	S. W. corner Chestnut and Worcester streets.	†Ayers
16.	H.	Main street, north side, west end of park.	Perkins
17.	H.	Main street, midway Oak and Myrtle, 6″.	Chapman
18.	H.	N. W. corner Main and Myrtle streets.	Perkins
19.	H.	S. E. corner Water and Oak streets.	Chapman
20.	H.	N. E. corner Main and Oak streets.	Chapman
21.	H.	S. W. corner Worcester and Oak streets.	Chapman
22.	H.	N. W. corner Worcester and Pine streets.	Chapman
23.	H.	S. W. corner Main and Pine streets.	Perkins
24.	H.	N. W. corner Main and Cedar streets.	Perkins
25.	H.	S. W. corner Water and Cedar streets.	Chapman
26.	H.	Main street, 600 feet east of Cedar.	Chapman
27.	H.	Main street, front of Trombley's, 6″.	Chapman
28.	H.	Main street, near Wilbraham line.	Chapman
29.	H.	Parker street, S. W. corner Main.	Chapman
30.	H.	Parker street, west side, 1,200 feet south of Main.	Chapman
31.	H.	Berkshire street, north side.	Chapman

† Replaced since December 1, 1896. Is now 4″ Chapman, plain.

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MAIN AND DISTRIBUTION PIPE

IN USE DECEMBER 1, 1896.

[*Pipe Belonging to Private Parties Marked (P).*]

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Abbe ave., west from Plainfield st	6	....	....	....	760	
do. east from Plainfield st	6	....	....	....	17	777
Acushnet ave., east from Main st	6	....	....	....	1,080	1,080
Adams st., Main to Ashmun	8	....	....	....	1,038	1,038
Alden st., Hancock to Logan	6	....	....	1,974	....	1,974
Alert st., north from Worthington	1	....	260	....	....	260
Alexander st.	6	....	....	....	762	762
Allen ave., north from Allen st. (P)	2	22	....	....	....	22
Allen st., Mill to White	8	....	....	930	....	
do. White to Plumtree road	6	....	....	4,487		5,417
Allendale st	6	....	....	....	707	707
Amherst st	6	....	....	1,339	....	1,339
Andrew st., north from Boston road	4	....	....	1,405	....	1,405
Arbor st., Carew to Butler	6	....	....	....	457	457
Arch st., North Main to Conn. River R. R	6	....	....	....	985	985
do. west from north Main	6	....	....	51	....	51
Armory st., Federal to Worthington	4	....	....	936	....	
do. north from Worthington	8	....	....	702	....	
do. north from 8"	1	39	....	....	..	
do. Summer to Van Horn reservoir	8	....	....	5,571	....	
do. Van Horn reservoir to Springfield st	12	....	....	2,584	....	9,832
Ashley st., Cedar to Hancock	6	....	....	1,427	....	1,427
Ashmun st., Central to Adams	8	....	....	....	269	269
Atwater terrace, extension from Rimmon avenue	6	....	....	504	....	504
Auburn st	6	....	....	....	887	887
do. west from Main	6	....	....	90	....	90
Avon place	4	....	....	715	....	715
do. east from Maple	4	....	437	....	....	
do. east from wrought-iron	4	....	....	....	416	853
Bancroft st., North Main to North	6	....	....	....	911	
do. North to Chestnut	6	....	....	....	600	
do. at Chestnut	8	....	....	....	4	1,515
do. east from North Main	6	....	....	21	....	21
Banks ave., west from Water st (P)	1½	....	193	....	....	193
Bay st., St. James ave. to Thompson st	8	1,275	....	....	....	
do. Thompson to Oak Grove cemetery	8	....	....	3,793	....	5,068
Beacon st., Eastern ave. to Colton st	6	....	....	374	....	
do. east from Colton	2	129	....	....	....	503
Beech st	6	....	....	560	....	560

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Beechwood ave., south from Sumner	6	....	....	276	....	276
Bellevue ave	8	....	....	1,728	....	1,728
Belmont ave., Fort Pleasant ave. to beyond Beaumont st	8	....	....	4,445	....	
do. at Sumner, northwest and south east	8	....	....	34	....	4,479
Benton st., south from Boston road	4	....	...	1,175	....	
do. south from 4" (P)	1¼	432	....	...	....	1,607
Berkeley st	6	....	....	493	....	493
Berkshire st., I. O., west from Myrtle (see Ludlow reservoir)	24	——	....	....	....	
do. east from Myrtle	6	....	....	456	....	456
Beverly st	6	....	....	252	....	252
Birnie ave., Grace st. to Walter	2	...	283	....	....	
do. south from Walter st	6	....	....	....	168	451
do. Wason to Grace st	8	....	....	726	....	
do. south from Grace st	8	....	....	12	....	
do. Alfred st. to Douglass	6	....	....	281	....	
do. south from Douglass st	6	....	....	176	....	1,195
Bliss st., Main to Water	6	....	....	....	995	
do. at Water (west)	6	....	....	....	40	
do. west from Water	2	....	361	....	....	1,396
Bond place, south from Bridge st. (P)	1¼	....	144	...	....	144
do	6	....	....	191	....	191
Bond st., Main to Chestnut	6	....	....	....	1,673	1,673
do. east from Main	6	....	....	18	....	
do. east from 6"	4	....	....	183	....	201
Boston & Albany R. R. line of	8	....	....	....	1,225	1,225
Boston ave., south from Boston road (P)	1¼	172	....	....	....	172
Boston and Indian Orchard roads (see Ludlow reservoir)	24	——	....	....	....	
Bowdoin st., St. James ave. to Worthington st	4	....	....	1,202	....	
do. north from Worthington	6	....	...	833	....	2,035
Bowles st., Catherine to McKnight	2	700	....	....	....	
do. McKnight to Bay	4	....	....	811	....	1,511
Boylston st	6	....	....	....	934	934
Brace st	6	....	....	360	....	360
Bradford st., North Main to Fulton	6	....	...	...	1,011	1,011
do. west from North Main	6	....	....	67	....	67
Bridge st., Water to Main	6	....	....	....	772	
do. Main to Chestnut	6	....	...	....	1,149	1,921
do. Main to Water	6	...	....	873	....	
do. east from Main	6	....	....	211	....	1,084
Brightwood ave., west from Plainfield st	6	....	...	....	176	176
Broad st., west from Main	8	....	1,001	...	....	
do. east from Hanover	4	....	....	....	52	1,053
Brown st., Bay to Yale	6	....	....	564	....	564
Buckingham st., north from State	6	670	....	....	....	
do. south from Bay	6	....	....	600	....	
do. Bay to Clarendon	4	....	....	806	....	2,076
Buckingham place	1½	338	....	....	....	338
Burr st., east from Andrew	4	....	....	695	....	695
Butler st., Chestnut to Arbor	6	....	....	....	975	
do. east from Arbor	6	....	....	...	194	
do. east from 6" (P)	4	....	....	....	33	
do. east from private 4"	4	....	....	....	313	1,515
Butler st., crossing to Everett (proposed st)	4	....	....	....	197	197

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Byers st.	6	1,452	....	....	....	1,452
Calhoun st., North Main to North	6	....	....	....	750	
do. east from North	6	....	....	....	365	1,115
do. east from North Main	6	....	....	16	....	16
Cambridge st., south from Bay	6	....	....	890	....	
do. north from Burr	6	....	....	263	....	1,153
Carew st., near Main to near Chestnut	8	....	1,512	....	....	
do. west from Chestnut	8	....	....	....	26	
do. east from Chestnut	6	....	....	....	33	
do. east from 6"	3	....	....	....	4	
do. near Chestnut to Massasoit	3	....	553	....	....	
do. east from Massasoit	6	....	....	....	350	
do. Main to North	16	....	875	..	....	3,353
do. east from Main	8	....	....	19	....	
do. Main to Chestnut (see Ludlow reservoir, "Main No. 2")	20	....	....	——	....	
do. east from Chestnut (see Ludlow reservoir, "Main No. 2")	24	....	....	——	....	
do. west from Armory (P)	1½	559	....	....	....	
do. east from Armory	6	....	....	11	....	589
Cass st., Linden to Everett	4	....	....	....	359	359
do. Liberty to Franklin	6	....	....	596	....	596
Catherine st., State to Bay	12	....	....	1,771	....	
do. Bay to Dartmouth	12	....	....	190	....	1,961
Cedar st., Walnut to Pine	16	1,254	....	....	....	
do. west from Pine	2	225	....	....	....	1,479
Cedar st., I. O.	4	374	....	....	....	374
Center st., I. O., east from Oak	2	359	....	....	....	
do. west from Cedar	2	360	....	....	....	
do. west from 2"	1½	52	....	....	....	771
Central st., east from Main	4	....	....	....	482	
do. west from Maple	6	....	959	....	....	1,441
do. Maple to Mill	8	....	....	4,035	....	4,035
Central st. av., Central st. to Foster court	6	....	....	292	....	292
Chapel st., east from Eastern ave. (P)	1	234	....	....	....	234
Chapin pond, at pumping station	8	....	....	163	....	
do. do.	12	....	....	299	....	462
Chapin st. (including Marion st. extension)	6	....	....	1,239	....	1,239
Charles st., south from Franklin	3	....	287	....	....	
do. north from Liberty	4	....	324	....	....	611
do. south from Liberty	4	....	....	204	....	204
Charter ave.	2	370	....	....	....	370
Cherry st., south from Central	6	....	....	1,130	....	1,130
Chester st., south from Central (P)	2	246	....	....	....	
do. south from 2" (P)	1¼	39	....	....	....	285
Chestnut st., brook to Jefferson ave.	20	....	1,715	....	....	
do. at Jefferson ave. (north)	20	....	....	....	10	
do. Jefferson ave. to Franklin	12	....	....	....	3,325	
do. Franklin to East Taylor	8	....	....	....	1,540	
do. Taylor to Worthington	6	....	333	....	....	
do. Worthington to Pearl	6	....	....	....	461	
do. south from Pearl	3	....	775	....	....	
do. north from State	4	....	625	....	....	8,784
do. Eagle to Springfield	8	....	....	613	....	
do. north from Carew	12	....	....	20	....	
do. Carew to 12", near Worthington, north	16	....	....	3,185	....	
do. 16" to Worthington	12	....	....	63	....	

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MAIN AND DISTRIBUTION PIPE—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Chestnut st., Worthington to Harrison ave.	12	....	....	873	....	
do. Harrison ave. to 6"	8	....	....	644	....	
do. 8" to State st.	6	....	....	360	....	5,758
Chestnut st., I. O., Hampden to Worcester	4	369	....	....	....	369
Chicopee Falls road, Ludlow, west from 30" main	2	1,219	....	....	....	1,219
Church st., North Main to North	6	....	....	....	898	898
do. east from North Main	6	....	....	19	....	19
Churchill st	6	....	....	675	....	675
City Hall ave.	4	....	....	131	....	131
Clarendon st., Bay to St. James ave.	6	....	....	1,068	....	
do. north from Worthington (for hydrant)	6	....	....	12	....	
do. north from Worthington	2	233	....	....	....	1,313
Cleveland st.	6	....	....	1,094	....	1,094
Clifford st.	4	....	....	505	....	505
Clifton ave., south from Central st.	4	....	....	504	....	504
Cliftwood ave.	6	....	....	449	....	449
Clinton st., Main to Fulton	6	....	....	....	796	796
College ave., State st. to Shattuck	6	....	....	833	....	
do. north from Shattuck	6	....	....	168	....	1,001
College st., State to Wilbraham road	8	....	....	567	....	567
Collins st., east from Eastern ave.	6	....	....	539	....	539
Colton st., Wilbraham road to Beacon st.	6	....	....	1,680	....	1,680
Concord terrace	2	188	....	....	....	188
Congress st., Main to near Chestnut	6	....	....	....	1,533	
do. west from Chestnut	4	....	....	....	60	1,593
Conn. River R. R., under tracks, connecting Arch and Washburn sts.	6	....	....	....	226	226
Cook's ave., Bridge st. to North Church ave.	4	....	....	....	126	126
Cornell st.	6	....	....	1,829	....	1,829
Cortland st., State to Shattuck	6	....	....	797	....	797
Cottage ave., east from Walnut st. (P)	1¼	169	....	....	....	
do. (including Melrose st.)	6	....	....	1,036	....	1,205
Court st., Main to Water	6	....	....	....	1,060	
do. at Water	8	....	....	....	4	1,064
do. west from Main	8	....	....	294	....	294
Cross st., at Willow, east	6	....	....	12	....	
do. 6" to Maple st.	4	....	....	605	....	617
Cycle st., east from Heywood ave. (P)	6	....	....	386	....	
do. for hydrants (P)	4	....	....	24	....	410
Cypress ave., at Cypress st.	4	....	....	....	9	
do. north from Cypress st.	3	....	210	....	....	219
Cypress st., Main to Fulton	6	....	....	....	720	720
do. Main to Fulton	8	....	....	676	....	676
Dale st., Union to William	6	....	....	....	400	
do. William to Winthrop	4	....	....	....	249	649
Dartmouth st., Bay to St. James ave.	12	....	....	1,036	....	1,036
Dartmouth terrace, west from St. James ave.	6	....	....	479	....	479
Dawes st.	6	....	....	1,250	....	1,250
Demond ave.	6	....	....	....	922	922
do. at Fisk ave.	6	....	....	2	....	2
Dexter st., George to Knox (P)	2	719	....	....	....	719

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Dickinson st., Oakland to Johnson	6	....	....	163	....	
do. north from Sumner ave	6	....	....	591	....	754
Dorchester st	6	....	....	620	....	620
Douglass st., North Main to Birnie ave.	6	....	....	582	....	582
Dresden ave	6	....	....	805	....	805
Dwight st., State to Bridge	6	....	....	....	1,565	
do. Bridge to Worthington	6	....	....	....	286	
do. crossing sewer at Worthington	6	....	....	....	45	
do. south from Lyman	6	....	....	....	49	1,945
do. State to Lyman (less 8" crossing Worthington st.)	10	....	....	2,322	....	
do. crossing sewer at Worthington	8	....	....	28	....	2,350
Dymon st	2	475	....	....	....	475
Eagle st., at North Main, west	6	....	....	13	....	
do. North Main to Chestnut	6	....	....	596	....	609
East Court st	4	....	....	584	....	584
Eastern ave., in State st., at 24" main	8	....	....	18	....	
do. from gate at State st. 24" main to Tyler st	12	....	....	1,568	....	
do. Tyler st. to Pendleton ave	12	350	....	....	....	
do. Pendleton ave. to Manhattan st.	8	....	....	1,873	....	
do. north from Melrose st	8	....	....	225	....	4,034
East Hooker st., east from North Main	6	....	....	....	361	361
do. do.	4	....	....	14	....	14
Edwards st	4	....	....	....	737	737
Elliott st	4	....	913	....	....	913
Elm st., Main to near Water	6	....	....	....	965	
do. east from Water	8	....	....	....	15	
do. west from Water (P)	1¼	....	395	....	....	1,375
do. west from Main	8	....	....	306	....	306
Elmwood st., west from Main	6	....	....	....	810	810
Emery st.	6	....	....	....	724	724
do.	8	....	....	716	....	716
Essex st., Main to near Chestnut	6	....	1,625	....	....	
do. west from Chestnut	6	....	....	....	25	1,650
do. east from Main	6	....	....	14	....	14
Essex st., L. O., Myrtle to Pine	8	....	....	1,222	....	1,222
Euclid ave	6	....	....	1,163	....	1,163
Everett st., east from Chestnut	6	....	....	....	46	
do. east from 6"	4	....	1,204	....	....	
do. west from Cass	4	....	....	....	50	
do. east from Cass	4	....	....	....	302	1,602
Fairbanks ave., from Worthington st.	3	....	329	....	....	329
Fairfield st., north from Garfield	6	....	....	934	....	934
Federal st., State to Armory	16	....	....	998	....	
do. Armory to Summer	8	....	....	1,500	....	2,498
Ferry st., east from Main	6	....	....	....	30	
do. east from 6"	4	....	459	....	....	
do. west from Chestnut	6	....	....	....	1,083	1,572
Firglade ave., south from Sumner	6	....	....	833	....	833
Fisk ave., south from Wason	8	....	1,493	....	....	1,493
do. south from Wason	12	....	....	736	....	
do. south from 12" Grace st. line	8	....	....	205	....	941
Florence st., Pine to Hancock	6	1,615	....	....	....	
do. east from Hancock	2	263	....	....	....	
do. west from Walnut	1	88	....	....	....	1,966
Florida st., north from Bay	6	1,520	....	....	....	
do. south from Worthington	6	....	....	14	....	
do. north from Worthington	6	....	....	850	....	2,384

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Forest park, from Sumner ave (P)	6	....	....	2,610	....	
do. for hydrants (P)	4	....	....	30	....	2,640
Forest st., Belmont ave. to Park ave	6	....	....	843	....	843
Fort st., Main to Water	6	....	....	....	715	715
do. west from Main (P)	4	....	....	76	....	76
Fort Pleasant ave., south from Mill st.	12	....	....	167	....	
do. south from Belmont ave	8	....	....	287	....	
do south from 8"	1¼	94	....	....	....	
do. north from Sumner ave	6	....	....	1,176	....	1,724
Foster court	6	....	....	762	....	762
Franklin st., Main to Chestnut	6	....	....	....	1,610	
do. east from Chestnut	6	....	....	....	21	
do. east from Charles	1¼	....	131	....	....	1,762
do. Main to Chestnut	8	....	....	1,583	....	
do. east from Cass (P)	1¼	128	....	....	....	
do. west from Liberty	2	1,173	....	....	....	2,884
Fremont st., Main to Water	6	....	....	....	831	831
Fulton street., Cypress to Plainfield	6	....	....	....	3,530	
do. Plainfield to brow of Round Hill	6	....	....	....	456	3,986
Gardner st., Main to Water	12	....	500	....	....	
do. west from Water	12	....	84	....	....	
do. west from 12"	8	....	399	....	....	
do. west from 8"	6	....	150	....	....	
do. east from Hanover	4	....	....	....	42	1,175
do. Gardner ave. to Hanover st.	8	....	....	189	....	189
Gardner ave	8	....	....	329	....	329
Garfield st	6	....	....	1,544	....	1,544
George st., south from Pine (P)	2	354	....	....	....	
do. north from Maple	2	170	....	....	....	524
Girard ave., Bay st. to McKnight	6	....	....	975	....	975
Gladwood ave	6	....	....	492	....	492
Grace st., North Main to Birnie ave	4	....	509	....	....	509
do. North Main to Birnie ave	12	....	....	690	....	
do. Birnie ave. crossing to Fisk ave.	12	....	....	390	....	1,080
Granada terrace, east from Dickinson st.	6	....	....	945	....	945
Grant st	4	....	....	600	....	600
Granville st., Eastern ave to Logan st.	6	....	....	497	....	497
Gray's ave., north from Cypress	6	....	....	....	358	
do. north from 6"	4	....	221	....	....	
do. south from Emery st	6	....	....	....	14	593
Greene st., Hancock to Eastern ave.	6	....	....	1,363	....	1,363
Greene st. ave., north from Greene st.	2	200	....	....	....	200
Greenleaf st	6	....	....	666	....	666
Greenwood st., east from Main	6	....	....	....	1,271	
do. west from Chestnut	4	....	....	....	337	1,608
Grosvenor st., north to Chestnut	6	....	....	....	773	773
Grove st., west from East Hooker	6	....	....	....	388	388
do. at North Main (east and west)	6	....	....	32	....	32
Hall st., Belmont ave. to Dickinson st.	6	....	....	997	....	997
Hampden st., west from Main	6	....	....	....	22	
do. Main to Water	12	....	700	....	....	722
do. Main to Water	8	....	....	660	....	660
Hampden st., I. O., Myrtle to Chestnut	4	750	....	....	....	
do. Myrtle to Oak	4	....	....	662	....	1,412
Hampshire st., I. O.	4	....	....	1,829	....	1,829
Hancock ave	6	....	....	636	....	636
Hancock st., State to Lebanon	16	2,400	....	....	....	
do. Lebanon to Walnut	12	....	....	920	....	
do. Florence to Hancock ave	6	....	....	576	....	

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Hancock st., Hancock ave., to Central st.	6	....	....	550	....	
do. at Central (south)	8	....	....	3	....	
do. south from Central	4	....	....	225	....	
do. south from 4"	6	....	....	412	....	5,096
Hanover st. Gardner to Broad	4	....	....	....	513	513
do. Gardner to York	8	....	....	789	....	789
Harrison ave., Main st. to Dwight	6	....	....	...	649	649
do. Main st. to Chestnut	12	....	....	895	....	
do. at Main st	6	....	....	25	....	
do. west from Dwight	6	....	....	173	....	1,093
Harvard st., Yale to St. James ave	6	....	....	947	....	
do. St. James ave. to Cornell st	6	....	....	716	....	1,663
Hawley st	6	515	....	....	....	515
Hawthorn place, south from Sumner av.	6	....	....	616	....	616
Hawthorn st., Spruce to Hancock	4	....	....	568	....	568
Hayden st	4	....	....	1,095	....	1,095
Hebron st., North to Chestnut	6	....	....	....	746	746
Heywood ave., south from Liberty st. (P)	6	....	....	257	....	257
Hickory st., east from Central	2	488	....	....	....	
do. east from Walnut st. main	6	125	....	....	....	
do. from east line of Walnut to Alden (including crossing private land to a point 154 feet west of cor. Alden and Hickory sts)	4	....	....	2,613	....	
do. Alden to Woodbine ave	4	....	....	550	....	
do. east from Woodbine ave	3	810	....	....	....	
do. east from 3"	1½	146	....	....	....	4,732
High st., Maple to School	3	....	781	....	....	781
do. School to Walnut	6	1,854	....	....	....	1,854
Highland st., Allen to Orange	6	....	....	1,537	....	1,537
Hillman st	8	....	....	692	....	692
Hillside place, east from Richelieu st. (P.)	2	....	120	....	....	120
Holyoke st	6	....	....	....	874	874
do. west from Main	6	....	....	86	....	86
Homer st	6	....	....	644	....	644
Hooker st., west from North Main	6	....	....	14	....	14
Howard st., Main to Water	6	....	....	....	994	
do. west from Water	2	....	420	....	....	
do. west from Water	6	....	362	....	....	1,776
do. west from Water	6	....	....	42	....	
do. near Water (west) to railroad (P)	4	....	....	304	....	346
Howard st., Ludlow, east from North (P)	1½	441	....	....	....	441
Hubbard ave., Main to Dale	6	....	....	....	621	621
Hyde ave., east from Plainfield st	6	....	....	....	17	17
do. at Fisk ave	4	....	....	7	....	
do. west from 4"	6	....	....	930	....	937
Hydrants, sundry streets	4	....	970	....	1,516	
do. sundry streets	6	....	....	....	211	2,697
do. sundry streets	4	....	....	3,603	....	
do. sundry streets	6	....	....	2,298	....	
do. sundry streets	8	....	....	169	....	6,070
Ingersoll grove, Worthington st. to Bowdoin	6	....	....	1,433	....	1,433
James st	4	....	....	959	....	959
Jefferson ave., at North Main st	8	....	....	....	10	
do. North Main to North	12	....	....	....	876	
do. North to Chestnut	16	....	482	....	....	
do. east from North Main	1½	....	225	....	....	1,598
do. at North Main	12	....	....	15	....	15

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement Lined or Wrought-Iron. High Service	Cement Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
John st., east from Fulton	6	....	....	....	419	
do. west from Plainfield	4	....	....	....	259	678
Johnson st	6	....	....	1,878	....	1,878
Keith st	6	....	....	1,102	....	1,102
Kenwood ave., south from Bellevue	6	....	....	23	....	23
Kenwood park	6	....	....	778	....	778
Kibbe ave., south from Summer st.	6	....	....	....	38	
do. north from Worthington st.	6	....	202	....	....	240
do.	8	....	....	240	....	240
King st., Walnut to Hancock	4	....	....	995	....	
do. Hancock to Eastern ave.	6	....	....	1,365	....	
do. east from Eastern ave.	6	....	....	455	....	2,815
King st. ave., King st. to Lebanon	2	367	....	....	....	
do. at Lebanon st.	1	7	....	....	....	374
Knox st., Mill to Dexter (P)	2	674	....	....	....	674
Ladd st.	6	....	....	513	....	513
Lafayette st	6	....	....	620	....	620
Laurel ave., west from Plainfield st.	6	....	....	....	674	674
La Verne ave., south from Bellevue	6	....	....	26	....	26
Lebanon place, south from King st. (P)	1¼	336	....	....	....	336
Lebanon st., Walnut to Hancock	16	630	....	....	....	
do. Hancock to Eastern ave.	6	....	....	1,377	....	2,007
Lenox st	6	....	....	447	....	447
Lexington ave	6	....	....	....	666	
do. (north side) east from Chestnut st. (P)	2	....	323	....	....	
do. (south side) east from Chestnut st. (P)	2	....	195	....	....	1,184
Liberty st., east from Main	6	....	....	....	1,195	
do. west from Chestnut	4	....	....	....	276	
do. east from Chestnut	6	....	1,800	....	....	3,271
do. Main to Chestnut	6	....	....	1,424	....	
do. west from Chestnut (P)	2	212	....	....	....	
do. east from Chestnut	6	....	....	2,613	....	
do. 6" to Armory	8	....	....	1,950	....	
do. east from Armory	6	....	....	24	....	6,223
Lillian st., Oak to Orleans	4	....	....	440	....	440
Lincoln st	6	....	....	804	....	804
Linden st., east from Chestnut	6	....	....	....	34	
do. east from cast iron	4	....	1,266	....	....	
do west from Cass	4	....	....	....	16	1,316
Litchfield st., Belmont ave. to Garfield	6	....	....	421	....	421
Locust st., Main to near Mill	12	732	....	....	....	
do. north from Mill	12	....	....	25	....	757
Logan st., at Olive (for flush gate)	6	....	....	10	....	10
Lombard reservoir,—to Armory st.	6	....	2,137	....	....	2,137
Lombard st	4	....	....	....	658	658
Long Hill st., South st. to near Spruceland ave.	8	....	....	2,500	....	
do. 8" to Spruceland ave	6	....	....	45	....	
do. from 8" to opposite E. H. Barney's house	2	1,798	....	....	....	4,343
Loring st., at Water	8	....	....	....	9	
do. east from Water	6	....	....	....	678	687
do. Main to Water	8	....	....	789	....	789
Lowell st	6	....	....	....	1,372	1,372

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MAIN AND DISTRIBUTION PIPE.—Continued.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Ludlow reservoir, as follows:						
Supply Main No. 1.						
Gatehouse to Higher brook	24	....	....	3,736	....	
Higher brook to Federal st. (less 215 feet *cast-iron* under tracks of B. & A. R. R., as below)	24	52,460	....	....	....	
Federal to Spring, 1,773 feet (see State street)	16	—	....	....	....	
Spring to Main, 2,026 feet (see State st.)	16	....	....	—	....	
Under Athol branch tracks of B. & A. R. R	24	....	....	135	....	
Under main tracks of B. & A. R. R.	24	....	....	80	....	56,411
Supply Main No. 2.						
Gatehouse, through dam	30	....	....	120	....	
Dam to intersection of Main No. 1	36	....	....	13,388	....	
Intersection of Main No. 1 to 24" (in Carew st.)	30	....	....	39,899	....	
30" (in Carew st.) to Chestnut st.	24	....	....	2,380	....	
Chestnut st. (in Carew st.) to Main st.	20	....	....	1,670	....	57,457
At Reservoir.						
Distributing canal to cut-off basin	36	....	....	36	....	
Under cut-off dam	36	....	....	132	....	
At Cherry Valley drain gate	20	....	....	36	....	204
Lyman st., Main to Chestnut	8	....	....	....	1,369	
do. east from Chestnut	8	....	....	....	230	
do. east from 8" cast-iron	6	....	112	....	....	
do. west from Spring	6	....	....	....	436	2,147
do. Main to Dwight	6	....	....	850	....	
do. Dwight to Chestnut	8	....	....	475	....	
do. Chestnut to Spring	6	....	....	768	....	2,093
Madison ave., north from Central st.	6	....	....	556	....	556
Magazine st., Grant to Armory	4	....	....	638	....	638
Magnolia terrace, so. from Sumner ave.	6	....	....	909	....	909
Main st., Carew to Liberty (south)	16	....	2,415	....	....	
do. Liberty (south) to Lyman (north)	16	....	....	....	318	
do. Lyman (north) to Hampden	16	....	242	....	....	
do. Hampden to Central	12	....	....	....	4,340	
do. Central to Locust	12	....	2,018	....	....	
do. Locust to Mill	6	....	830	....	....	
do. Carew to State	16	....	....	5,210	....	10,163
do. State to Locust	12	....	....	4,143	....	
do. Mill to Mill river	12	....	....	310	....	
do. at Carew (between high and low)	6	....	....	25	....	
do. at Bridge (between high and low services, and sewer man-hole)	6	....	....	24	....	9,712
Main st., I. O., west from Myrtle	8	....	....	510	....	
do. Myrtle to beyond Cedar (see Ludlow reservoir)	24	—	....	....	....	
do. at 24" main, east	8	....	....	24	....	
do. from 24" main to Wilbraham line	6	....	....	3,930	....	4,464
Main Supply Pipes—(see "Ludlow reservoir" and "Van Horn reservoir")						
Manhattan st., Walnut to Eastern ave.	6	....	....	1,120	....	1,120
Maple ave., east from Maple st	6	....	....	392	....	392
Maple dell	6	....	....	1,013	....	1,013
Maple st., State to opposite No. 143	6	....	1,816	....	....	
do. opposite No. 143 to Central	8	....	249	....	....	2,065

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Maple st., Stockbridge to Union	6	....	....	857	....	
do. Union to Central	8	....	....	1,235	....	
do. Central to Pine	6	1,753	....	....	....	
do. opposite No. 310 (connecting 6" and 4")	4	....	....	15	....	
do. opposite No. 310 to near Pine (east)	4	....	....	650	....	
do. near Pine (east) to Mill	4	756	....	....	....	5,266
Maplewood terrace	6	....	....	1,378	....	1,378
Marble st.	8	....	....	....	1,084	1,084
Margaret st., Main to Water	6	....	....	....	884	
do. west from Water	4	....	....	....	566	1,450
Marion st., Bay to McKnight	6	....	....	889	....	889
Market st., State to Harrison ave.	6	....	....	....	1,058	1,058
do. State to Sanford	6	....	....	298	....	
do. south from Townsley ave.	4	....	....	95	....	393
Massasoit st., north from Carew	3	....	400	....	....	
do. north from 3"	6	....	....	....	288	
do. Lexington ave. to Montmorenci st	6	....	....	....	330	
do. north from Montmorenci st. (P)	1¼	....	158	....	....	1,176
do. at Carew (for hydrant)	6	....	....	50	....	50
Mattoon st., Chestnut to Elliott	4	....	625	....	....	625
do. west from Elliott	6	....	....	362	....	362
Maynard ave., State st. to Shattuck	6	....	....	612	....	612
McKnight st., Sherman to Bowles	4	....	....	507	....	
do. Bowles to Girard ave.	6	....	....	414	....	921
Mechanic st., west from Water	6	....	....	....	35	
do. west from 6"	2	....	353	....	....	388
Mechanics row	2	....	220	....	....	220
Melrose st. (included with Cottage ave.)	6	....	....	—	....	
Merrick ave., King st. to Lebanon	2	348	....	....	....	
do. at Lebanon st.	1	24	....	....	....	372
Merwin st.	6	....	....	730	....	730
Middlesex st., south from Wilbraham road	6	....	....	48	....	48
Mill st., U. S. Watershops to Central	8	....	....	400	....	
do. Pine to Locust	16	1,157	....	....	....	
do. Locust to Main	12	....	....	581	....	2,138
Monmouth st., Truxton to Yale	4	....	....	497	....	
do. Yale to Berkeley	6	....	....	479	....	976
Monroe st., east from Hancock	6	....	....	824	....	
do. from cast-iron to Hawley	6	134	....	....	....	
do. Hawley to Colton	6	....	....	730	....	1,708
Monson ave., north from Greene st.	2	199	....	....	....	199
Montmorenci st.	6	....	....		678	678
Montrose st., south from Burr	6	....	....	978	....	978
Moore ave., west from Plainfield st.	6	....	....	....	663	663
Morgan st., east from North Main	6	....	....	....	178	
do. east from 6"	4	....	....	....	63	
do. from 4" to near North st.	6	....	....	....	580	
do. west from North	4	....	....		75	896
do. east from North Main	6	....	....	21	....	21
Morris st., east from Main	6	....	....	....	784	
do. 6" to Central	8	....	....	....	326	1,110
Mulberry st., Maple to School	3	....	642	....	....	642
do. east from Maple (P)	2	445	....	....	....	
do. west from School (P)	1	220	....	....	....	
do. School to Union	6	1,380	....	....	....	2,045
Myrtle st.	4	....	....	548	....	548

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MAIN AND DISTRIBUTION PIPE.—Continued.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Myrtle st., I. O., Main to Berkshire (see Ludlow reservoir)	24	----	....	....	....	
do. Berkshire to Essex	8	....	....	845	....	845
Nelson ave., King st., to Lebanon	2	358	....	....	....	
do. at Lebanon st. (north)	1	17	....	....	....	
do. Lebanon st. to Greene	2	411	....	....	....	786
New st., west from Dwight	2	....	180	....	....	180
Noel ave., west from Highland st.	6	....	....	671	....	671
Norfolk st., south from Wilbraham road	6	....	....	1,200	....	1,200
North st., Carew to Jefferson ave.	16	....	2,000	....	....	
do. north from Jefferson ave. (P)	2	....	208	....	....	
do. south from Calhoun	1¼	....	181	....	....	
do. Calhoun to Waverly	6	....	....	....	696	3,085
do. at Carew (for hydrant)	6	....	....	51	....	51
Northampton ave.	6	....	....	1,258	....	1,258
North Church ave.	4	....	....	....	400	400
North Main st., at Carew	8	....	....	....	16	
do. Carew to near Bancroft (north) (less cast-iron opposite No. 138-140)	8	....	2,100	....	....	
do. opposite No. 138-140	8	....	....	....	21	
do. near Bancroft (north), to near Hooker (north)	8	....	....	....	1,316	
do. near Hooker (north), to Wason ave. (less cast-iron at Thomas st., crossing Burt's brook)	8	....	2,641	....	...	
do. at Thomas st. (crossing Burt's brook)	8	....	....	....	52	
do. north from Wason ave.	8	....	....	....	28	6,174
do. Carew to Grace	16	....	....	5,415	....	
do. at proposed street of Birnie and Adams	8	....	....	24	....	
do. at proposed street, midway Adams' nursery (east)	6	....	....	20	....	
do. at proposed street, midway Adams' nursery (west)	4	....	....	14	....	
do. Grace to Chicopee line (P)	1¼	1,740	....	....		7,213
Norwood st.	6	....	....	....	1,016	1,016
Oak st.	6	1,450	....	....	....	1,450
Oak st., I. O., north from Main, I. O.	4	....	....	362	....	
do. south from Main, I. O.	2	83	....	....	....	
do. south from Worcester, I. O.	1¼	150	....	....	....	
do. south from Hampshire, I. O.	4	....	....	961	....	1,556
Oak Grove ave., north from State st.	6	....	....	388	....	388
Oakland st., at Belmont ave.	8	....	....	21	....	
do. 8" to Orange st.	6	....	....	1 872	....	1,893
Olive st.	6	....	....	515	....	515
Orange st., west from White	6	....	....	382	....	382
Orchard st.	6	....	....	....	1,005	1,005
Orleans court, west from Orleans st. (P)	1¼	182	....	....	....	182
Orleans st., State to Union	4	....	....	755	....	
do. Union to Pendleton ave.	6	....	....	858	....	1,613
Osgood st., east from North Main	4	....	925	....	....	
do. west from North	4	....	....	....	33	
do. at North	8	....	....	....	3	961
do. east from North Main	6	....	....	21	....	21
Oxford st., east from Fort Pleasant ave	6	....	....	26	....	26
Palmer ave., east from Locust st. (P)	2	850	....	....	....	850

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MAIN AND DISTRIBUTION PIPE.—Continued.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Park ave., Fort Pleasant to Sumner	6	....	....	2,625	....	
do. south from Sumner	6	....	....	403	....	
do. south from 6"	1¼	66	....	....	....	3,094
Parker st., south from Main, I. O.	6	....	....	1,175	....	1,175
Park st., east from Willow	3	....	....	....	324	
do. east from 3"	6	....	....	....	202	
do. west from Maple	6	....	344	....	....	770
Patton st., east from Main	4	....	....	....	810	
do. west from Chestnut	6	....	....	....	881	1,691
do. east from Main	6	....	....	16	....	16
Pearl st., Chestnut to Spring	4	....	964	....	....	964
do. Spring to Byers	6	....	....	296	....	
do. Byers to Federal	4	....	....	2,150	....	2,446
Pendleton ave., Walnut st. to Hancock	8	1,290	....	....	....	
do. Hancock st. to Eastern ave	6	....	....	1,356	....	2,646
Pine st., Walnut to Cedar	6	....	....	1,679	....	
do. Cedar to Mill (less 24")	16	2,660	....	....	....	
do. south from Maple	24	114	....	....	....	4,453
Pine st., I. O., Main to beyond Chapman Valve Mfg. Co.	6	....	....	1,807	...	1,807
Pine st. court	2	365	....	....	....	365
Plainfield st., north from Bradford	6	....	....	....	17	
do. near Bradford to John	4	....	....	....	276	
do. John to Fulton	6	....	....	....	1,072	
do. Lowell to Washburn	6	....	....	....	278	
do. Washburn to Orchard	8	....	....	...	341	
do. south from Abbe ave	8	....	....	...	800	
do. Abbe ave. to Wason	8	....	....	....	1,491	4,275
Pleasant st., State to Bay	4	500	....	....	....	500
Plymouth st.	6	....	....	....	500	500
Princeton st., Bay to Cornell	6	....	....	1,877	....	1,877
Prospect st., Chestnut to Massasoit	4	....	....	....	577	577
Pynchon st., at Water	8	....	....	....	15	
do. east from 8"	6	....	....	....	16	
do. east from 6"	3	....	....	....	800	
do. from 3" to Main st.	6	....	....	....	35	866
do. west from Main	8	....	....	355	....	355
Queen st., east from Walnut	4	....	....	420	....	
do. west from Hancock	6	....	....	356	....	776
Quincy st., Oak to Hancock	6	....	....	1,427	....	
do. west from Hancock st. main	8	....	....	11	....	
do. east from Hancock st. main	8	....	....	8	....	
do. Hancock to Eastern ave	6	....	....	1,370	....	
do. east from Eastern ave	6	....	....	317	....	3,133
Railroad row, west from Main st.	6	...	....	....	63	
do. Main to Water	3	....	562	....	....	625
Randall ave., north from Allen st.	4	....	....	212	....	212
Raymond ave., north from Carew st. (P)	2	158	....	....	...	158
Reed st., south from State (P)	2	690	....	...	....	
do. at Wilbraham road	6	....	....	9	....	699
Richelieu place, east from Richelieu st. (P)	2	....	145	....	....	145
Richelieu st., south from Adams	4	....	....	...	414	414
Ridgewood place	6	....	....	587	....	587
Ridgewood terrace, north from Mulberry st. (P)	2	286	....	....	....	286
Rimmon ave., west from Gladwood	6	....	....	1,038	....	1,038
Ringgold st., North to Chestnut	6	....	....	....	753	753
Ripley ave.	2	204	....	....	....	204

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Rutland ave., north from Wilbraham road	1¼	141	....	....	....	
do. north from 1¼"	3	37	....	....	....	178
Rutledge ave., east from Main st	6	....	....	....	530	530
Sackett's ave., south from Worthington st. (P)	¾	....	180	....	....	180
Salem st., Spring to Elliott	3	....	392	....	....	392
do.	6	....	....	434	....	434
Sanford st., east from Main	6	....	....	....	70	
do. west from Market	4	....	....	....	90	
do. Market to Dwight	6	....	....	....	392	552
do. Market to Dwight	6	....	....	394	....	
do. at Dwight st. main	4	....	....	6	....	400
Sargeant st., west from Main	6	....	....	....	90	
do. near Main to near Fulton	6	....	805	....	....	
do. east from Fulton	6	....	....	....	12	907
do. west from Main	6	....	....	194	....	194
School st., High to Union	3	....	376	....	....	376
do. State to High	6	560	....	....	....	
do. High to Mulberry	4	937	....	....	....	1,497
Seventh st., west from Main	4	....	702	....	....	
do. east from Fulton	6	....	....	....	224	926
do. west from Main	6	....	....	88	....	88
Shamrock ave., west from Highland st.	2	161	....	....	....	
do. south from Noel ave.	6	....	....	229	....	390
Sharon st., Main to Chestnut	6	....	1,585	....	....	1,585
Shattuck st., College ave., to Cortland st	6	....	....	967	....	967
Sheldon st., west from North Main	4	....	341	....	....	341
do. at North Main	6	....	....	12	....	12
Sheridan ave., south from Morgan st.	2	....	162	....	....	
do. south from 2"	1½	....	54	....	....	1216
Sherman st., State to Bay	4	....	....	1,600	....	
do. Bay to Clarendon (P)	1	101	....	....	....	1,701
Silver st., east from Armory	4	....	....	573	....	573
Smith st., Maple to Dorne	4	....	....	302	....	302
South st., Mill river to Long Hill st.	12	....	....	600	....	
do. south from Long Hill st.	8	....	....	1,167	....	
do. south from 8"	6	....	....	411	....	2,178
Spring st., State to near Summer	6	....	2,075	....	....	
do. near Summer to Lyman	6	....	....	....	350	2,425
do. State to Lyman	6	....	....	2,373	....	2,373
Springfield st., to Chestnut (at brook)	20	....	850	....	....	850
do. east from Chestnut	8	....	....	414	....	
do. west from Armory	8	....	....	240	....	654
Spruce st	4	735	....	....	....	735
Spruceland ave., Long Hill st. to Magnolia terrace	6	....	....	1,109	....	1,109
State st., west from Water	6	....	....	....	165	
do. west from 6" cast-iron	1¼	....	31	....	....	
do. Water to Main	6	....	....	....	993	
do. east from Main	6	....	....	....	50	
do. near Main to Maple	8	....	....	....	772	
do. Maple to Spring	6	....	1,132	....	....	3,143
do. west from 4" (west of Water) (P)	2	244	....	....	....	
do. west from Water	4	....	....	340	....	
do. Water to near Main	8	....	....	923	....	
do. west from Main	12	....	....	12	....	
do. Main to Spring	16	....	....	2,026	....	
do. Spring to Federal	16	1,773	....	....	....	

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
State st., east from Federal (see Ludlow reservoir)	24	....	....	....	....	
do. Catherine to Eastern ave. (south of 24" main—for Catherine st.)	12	....	....	138	....	
do. west from College (south of 24" main—for College st.)	8	....	....	93	....	5,539
Stebbins st., State to Union	4	....	....	776	....	776
Sterns terrace, north from Central st.	2	475	....	....	....	475
St. James ave., State st. to Bay	8	200	....	....	....	
do. Bay to Thompson	6	....	....	1,640	....	
do. Thompson to near Dartmouth	6	....	....	1,054	...	
do. south from Dartmouth	8	....	....	12	....	
do. north from Dartmouth	6	....	....	12	....	
do. near Dartm'th to near Lafayette	8	....	....	1,321	....	
do. near Lafayette to Dorchester	6	....	....	174	....	4,413
Stockbridge st., Main to Willow	6	....	....	....	368	368
do. Maple to Willow	6	....	....	470	....	470
Suffolk st., south from Wilbraham road	6	....	....	1,385	....	1,385
Sullivan st., east from Armory	6	....	....	380	....	380
Summer st., east from Spring	6	....	....	....	43	
do. from 6" to Autumn st	3	....	644	....	....	
do. Autumn st., to Kibbe ave	8	....	....	....	1,221	
do. no. to site of old Athol eng. house	4	....	....	....	210	2,118
do. Kibbe ave. to Federal st.	8	....	....	891	....	
do. Federal to Armory	8	....	....	300	....	1,191
Sumner ave., Long Hill st. to Fort Pleasant ave	6	....	....	668	....	
do. Fort Pleasant to Belmont	8	....	....	4,440	....	
do. east from Belmont	8	....	....	1,291	....	6,399
Symonds ave., Worthington st. to North Church ave	4	....	....	....	150	150
Talcott ave., east from Plainfield st.	6	....	....	....	735	
do. cast-iron to Fisk ave.	6	....	42	....	....	777
Taylor ave., west from Willow st.	2	....	197	....	....	197
Taylor st., east from Chestnut	3	....	358	....	....	358
do. Main to Dwight	8	....	....	843	...	
do. east from Dwight	8	....	....	283	....	
do. 8" to Chestnut	6	....	....	44	....	1,270
Temple st., Maple to School	4	....	...	1,137	....	1,137
Tenth st., Main to Chestnut	6	....	....	....	1,625	1,625
do. east from Main	6	....	....	25	....	25
Terrence st.	4	815	....	....	....	815
Thomas st., at North Main	6	....	....	44	....	44
Thompson st., State to St. James ave.	8	1,540	....	....	....	
do. St. James ave. to Worthington st	8	....	....	716	....	2,256
Townsley ave	6	....	....	174	....	174
Truxton st.	4	....	....	186	....	186
Tyler st., Oak to Hancock	6	1,440	....	....	....	
do. Hancock to Colton	6	....	....	1,689	....	3,129
Union st., railroad to near Water st.	4	....	386	....	....	
do. west from Water	4	....	....	....	49	
do. Water to Main	6	....	....	....	968	
do. Main to Maple	6	....	....	....	1,148	
do. Maple to School	3	....	692	....	....	3,243
do. Main to Willow	6	....	....	856	....	
do. Maple to School	6	....	....	665	....	
do. School to Hancock	8	3,925	....	....	....	
do. Hancock to Colton	6	....	....	1,683	....	6,632

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Van Horn reservoir, from gatehouse through dam	12	....	....	....	200	
do. from gatehouse through dam	16	....	....	....	200	
do. dam to Springfield st	20	....	1,800	....	....	2,200
do. from Armory st. (high service feeder)	6	....	....	278	....	278
Vassar st	6	....	....	542	....	542
Vernon st., Main to Water	6	....	....	....	910	910
Vine st., Main to Fulton	6	....	....	....	823	823
do. west from Main	6	....	....	89	....	89
Vinton st., Liberty to near Franklin	6	....	....	641	....	641
Walker st	6	....	619	....	....	619
do. Walker to Gardner ave	8	....	....	450	....	
do. Gardner ave. to railroad	6	....	....	223	....	673
Walnut st., State to Union	12	700	....	....	....	
do. Union to Cedar	8	2,087	....	....	....	
do. Cedar to Hancock	8	....	....	630	....	
do. Hancock to U. S. Watershops	12	....	....	1,510	....	4,927
Walter st., east from Birnie ave	2	....	251	....	....	251
do. at North Main	6	....	....	41	....	41
Waltham ave., so. from Wilbraham road	6	....	....	537	....	537
Warner place	6	....	....	797	....	797
Warren ave., west from Hancock st	2	112	....	....	....	112
Warriner ave., east from Locust st	6	....	....	360	....	360
Washburn st., west from Plainfield	6	....	....	....	1,453	1,453
Wason ave., west from North Main st	8	....	707	....	....	
do. from 8" to Fisk ave	12	....	....	....	213	
do. Fisk ave., to near Plainfield st	10	....	....	....	972	
do. east from Plainfield st	8	....	....	....	15	1,907
do. west from Birnie ave	8	....	....	93	....	
do. east from Fisk ave	12	....	....	15	....	
do. west from Fisk ave	8	....	....	14	....	122
Water st., Railroad row to near Fort st	6	....	615	....	....	
do. Walker to Lombard	6	....	....	....	105	
do. Hampden to Gardner	12	....	4,810	....	....	5,530
do. State to Howard	8	....	....	476	....	
do. Loring to Walker	8	....	....	184	....	660
Waverly st., No. Main to near Chestnut	8	....	860	....	....	
do. near Chestnut to 12"	8	....	....	....	33	
do. 8" to Chestnut	12	....	....	....	15	908
do. at North Main (east and west)	6	....	....	31	....	31
Webster ave., north from Pearl st	3	....	238	....	....	
do. south from Pearl st. (P)	1½	....	142	....	....	380
Webster st., north from Liberty (P)	1	262	....	....	....	262
Welcome place	6	....	....	252	....	252
Wellesley st	6	....	....	481	....	481
Wendell ave., east from Main st	6	....	....	....	465	465
Westminster st., State to Bay	6	1,100	....	....	....	
do. Bay to St. James ave	6	....	....	920	....	2,020
White st., south from Allen	6	....	....	2,587	....	2,587
Whitney ave., west from Water	4	....	....	....	419	419
Wight ave., east from Water	6	....	....	....	277	
do. east from 6" (P)	1¼	....	209	....	....	486
Wilbraham ave., south from Wilbraham road	6	....	....	1,597	....	
do. south from 6"	8	....	....	192	....	1,789
Wilbraham road, Eastern ave. to Norfolk st	12	....	....	3,927	....	
do. west from Reed st. (P)	1¼	153	....	....	....	4,080

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MAIN AND DISTRIBUTION PIPE.—Continued.

LOCATION OF PIPE.	Size in Inches.	Length in Feet.				Totals in Feet.
		Cement-Lined or Wrought-Iron.		Cast-Iron.		
		High Service	Low Service	High Service	Low Service	
Wilcox street, Main to Water	6	....	....	....	965	
do. at Water (east and west)	8	....	....	....	6	
do. Water to railroad	4	....	....	....	457	1,428
Willard ave., south from Shattuck st.	6	....	....	350	....	350
William st., railroad to Water	6	....	....	....	....	
do. Water to Main	6	....	523	....	945	
do. east from Main	6	....	....	....	23	
do. east from 6"	4	....	....	....	....	
do. west from Dale	6	....	227	....	388	2,106
do. east from Main	6	....	....	248	....	248
Willow st., State to Taylor ave.	6	....	....	....	630	
do. at Taylor ave.	4	....	....	....	3	
do. Taylor ave. to Park st.	3	....	....	....	153	786
do. State to Hubbard ave	0	....	....	1,220	....	1,220
Winchester st.	14	543	....	....	....	543
Windsor ave.	14	485	....	....	....	485
Windsor st., east from Pine	2	679	....	....	....	679
Winthrop st., east from Main	6	....	....	....	52	
do. west from Dale	4	....	....	....	....	710
Woodbine ave., north from Hickory st.	4	....	658	327	....	
do. north from 4" (P)	14	192	....	....	....	519
Woodside ave.	6	....	....	449	....	449
Woodworth ave., State st. to High	2	457	....	....	....	457
Worcester ave., east from Plainfield st.	6	....	....	....	811	
do. west from Fisk ave.	4	....	....	....	52	863
Worcester st., I. O., Myrtle to Oak	6	....	....	689	....	
do. east from Oak	2	283	....	....	....	972
Worthington st., Symonds ave. to Main st.	6	....	....	....	151	
do. Main to Chestnut	6	....	....	....	1,231	
do. Chestnut to Kibbe ave.	6	....	....	....	....	4,122
do. west from Main	8	....	2,740	101	....	
do. Main to Dwight	8	....	....	795	....	
do. Dwight to near hose house	10	....	....	559	....	
do. near hose house to Federal st.	8	....	....	3,402	....	
do. Federal to Bowdoin	8	....	....	1,270	....	
do. Bowdoin to St. James ave.	2	....	....	1,654	....	7,781
Yale st., Dartmouth to Princeton	16	....	....	927	....	
do. north from Princeton	6	....	....	739	....	1,666
York st., west from Main	8	....	....	....	....	
do. west from wrought-iron	8	....	281	....	183	
do. west from 8"	6	....	....	....	497	961
Totals	....	121,520	75,256	362,391	115,628	674,795

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MAIN AND DISTRIBUTION PIPE.—CONCLUDED.

RECAPITULATION BY SIZES.

SIZES.	High Service.			Low Service.			Totals in Feet.
	Cement-Lined or Wrought Iron.	Cast-Iron.	Total.	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	
¾-inch	.....	.....	.....	180	.....	180	180
1-inch	992	.....	992	260	.....	260	1,252
1¼-inch	4,553	.....	4,553	1,667	.....	1,667	6,220
1½-inch	1,462	.....	1,462	196	.....	196	1,658
2-inch	17,752	.....	17,752	3,418	.....	3,418	21,170
3-inch	847	.....	847	7,271	1,181	8,452	9,299
4-inch	5,779	38,116	43,895	11,724	11,646	23,370	67,265
6-inch	15,588	150,812	166,400	20,806	77,972	98,778	265,178
8-inch	10,317	65,774	76,091	11,243	14,360	25,603	101,694
10-inch	.....	4,101	4,101	.....	972	972	5,073
12-inch	1,782	25,142	26,924	8,112	8,969	17,081	44,005
16-inch	9,874	16,834	26,708	6,014	518	6,532	33,240
20-inch	.....	1,706	1,706	4,365	10	4,375	6,081
24-inch	52,574	6,331	58,905	.....	.....	.....	58,905
30-inch	.....	40,019	40,019	.....	.....	.....	40,019
36-inch	.....	13,556	13,556	.....	.....	.....	13,556
Totals	121,520	362,391	483,911	75,256	115,628	190,884	674,795

RECAPITULATION BY MATERIAL.

MATERIAL.	High Service.		Low Service.		Totals.	
	Feet.	Miles.	Feet.	Miles.	Feet.	Miles.
Cement-Lined or Wrought-Iron	121,520	23.02	75,256	14.25	196,776	37.27
Cast-Iron	362,391	68.63	115,628	21.90	478,019	90.53
Totals	483,911	91.65	190,884	36.15	674,795	127.80

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TWENTY-FOURTH
ANNUAL REPORT

Water Commissioners

SPRINGFIELD, MASS.

1897

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City of Springfield.

TWENTY-FOURTH ANNUAL REPORT

OF THE

Board of Water Commissioners

TO

THE CITY COUNCIL,

TOGETHER WITH THE

REPORTS OF THE REGISTRAR AND SUPERINTENDENT

FOR THE YEAR 1897.

SPRINGFIELD, MASS.:
CLARK W. BRYAN CO., CITY PRINTERS.
1898.

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WATER COMMISSIONERS' REPORT.

WATER COMMISSIONERS' OFFICE,
43 BRIDGE STREET.

SPRINGFIELD, MASS., December 30, 1897.

To the City Council of the City of Springfield:

The Board of Water Commissioners have the honor to herewith submit their twenty-fourth annual report of the finances and condition of the Water Department, for the year ending December 10, 1897 including the reports of the Water Registrar and the Superintendent to the Board.

CONSTRUCTION.

The total amount charged to this account during 1897 was $26,857.47, of which $22,349.41 was for extending the distribution mains 39,108 feet, making a present total of 134.71 miles of pipe in the system.

The above is a good index of the rapid growth of the city. These extensions are made only where the revenue therefrom is guaranteed to an amount of from seven to ten per cent. on the cost of the work, and we consider this to be a more judicious investment than any sinking fund; for, besides the additional revenue derived from such extensions, the taxable value of the abutting property is increased and fire protection is given to the growing districts in the suburbs.

These extensions will undoubtedly continue to form a large portion of the work of this department. Water works in a growing city are never completed.

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MAINTENANCE.

The total amount charged to maintenance during the year was $121,251.64, distributed to the following accounts:

GENERAL MAINTENANCE.		
Management and repairs (operating, etc.),	$21,294 11	
Interest on bonds,	94,250 00	
Taxes on reservoir property,	238 47	
		$115,782 58
SPECIAL MAINTENANCE.		
Engineering (mapping),	$189 14	
Damages,	23 26	
Legal expense,	314 68	
Permanent pavement account (expense of examining, protecting and renewing mains, gates, services, etc.),	187 32	
Distribution mains—renewals,	4,754 66	
		5,469 06
Total		$121,251 64

Pipe was purchased the past season for an auxiliary crossing of the Chicopee river at, or just below, Indian Orchard, but on account of the continued high water we were not able to place it in position under the bed of the stream.

This will be attended to at the first opportunity during the coming season and, when completed, will give us a second line of thirty-inch pipe across the Chicopee river, which will be available in case of any accident at this point to the single line now in use.

This provision we consider quite important, as in case of such accident to the present pipe the necessary repairs would be practically out of the question at most seasons of the year.

The number of service connections added to the system during the past year is 423, making a total of 8,721 in use.

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The following summary gives the number added each year since 1884:

In 1885,	224	new connections.
In 1886,	282	"
In 1887,	300	"
In 1888,	328	"
In 1889,	350	"
In 1890,	273	"
In 1891,	411	"
In 1892,	452	"
In 1893,	367	"
In 1894,	482	"
In 1895,	418	"
In 1896,	398	"
In 1897,	423	"

FINANCIAL.

The total cash receipts from water rates, services, repairs, sales, etc., amounted to $215,600.00.

The following revised statement shows the annual increase since 1885 in the amounts charged and collected *for water, only:*

COMPARATIVE STATEMENT OF WATER RECEIPTS SINCE 1885.

(*On annual basis of twelve months.*)

YEAR.	Water Rates Charged.		Water Rates Collected.*	
	Totals.	Increase.	Totals.	Increase.
1885	$93,421 60		$90,848 05	
1886	100,537 77	$7,116 17	97,298 78	$6,450 73
1887	108,140 94	7,603 17	105,451 52	8,152 74
1888	115,146 35	7,005 41	112,581 21	7,129 69
1889	126,220 72	11,074 37	122,541 52	9,960 31
1890**	133,553 28**	7,332 56	129,913 27**	7,371 75
1891	140,604 85	7,051 57	136,985 11	7,071 84
1892	150,515 67	9,910 82	146,349 09	9,363 98
1893	164,894 65	14,378 98	160,936 78	14,587 69
1894	167,376 11	2,481 46	162,769 71	1,832 93
1895	182,357 49	14,981 38	178,421 15	15,651 44
1896	194,069 28	11,711 79	189,373 75	10,952 60
1897	196,818 72	2,749 44	192,129 20	2,755 45

*For amounts abated and uncollected see detail in Registrar's report.

**Amounts for 1890, estimated at $20,000 less than actual totals for that year, which include 15 months' water rates, instead of 12, due to change of time in rendering the semi-annual bills.

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While for the past year both the maintenance and construction accounts have been large, we have after paying all expenditures, including the interest on the bonded debt and the claim of the N. W. Bond estate ($3,800.00) for diversion of water from Jabish brook, the sum of $47,647.99 to turn over to the sinking fund.

This result is so gratifying to us that we are contemplating a slight reduction in the water rates and a change in the meter minimum rate that will make a more equitable division between metered and unmetered water, to take effect April 1, 1898.

Any reduction in the water rates must of necessity be small until we are able to refund our heavy bonded indebtedness, on the greater portion of which we are paying *seven per cent.* interest.

BONDED DEBT.

7% bonds, falling due as follows:			
April 1, 1894 to April 1, 1902, $25,000 annually (issued 1873 and 1874), ...		$225,000 00	
April 1, 1903 (issued 1873 and 1874), ...		775,000 00	
Total issue of 1873 and 1874,		$1,000,000 00	
Less bonds paid as follows:			
April 1, 1894, .	$25,000 00		
April 1, 1895, .	25,000 00		
April 1, 1896, .	25,000 00		
April 1, 1897, .	25,000 00	100,000 00	
Balance of 7% bonds outstanding,			$900,000 00
6% bonds, falling due April 1, 1905 (issued 1875), . . .			200,000 00
3½% bonds, falling due October 1, 1920 (issued 1890), . . .			125,000 00
4% bonds, falling due as follows:			
April 1, 1913 (issued 1893), .		$200,000 00	
October 2, 1923, (issued 1893), .		150,000 00	
Total issue of 1893, . .			350,000 00
Net total bonds outstanding, . .			$1,575,000 00

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SINKING FUND.

Balance in hands of Sinking Fund Commissioners, December 10, 1896, ...	$168,035 20
Surplus transferred from water works receipts of 1896, ...	50,476 30
Total for investment during 1897, . .	$218,511 50
Interest on above sum during 1897, . .	14,337 48
Total in hands of Sinking Fund Commissioners, December 10, 1897, ...	$232,848 98
Available surplus from water works receipts of 1897,	47,647 99
Total amount available December 10, 1897, .	$280,496 97

We sincerely hope that the policy pursued since 1894, of paying the $25,000 for the seven per cent. bonds falling due each year from funds raised by taxation, will be continued and that the sinking fund will be left undisturbed toward the redemption of the $775,000 worth of bonds falling due April 1, 1903.

The use of water by the city, in its corporate capacity, for the schoolhouses, engine houses and other municipal buildings; for watering tanks, fountains and fire protection; and for flushing the ever enlarging system of city sewers; together with the entire care of all the fire hydrants by the water department; all this is well worth the $25,000 annually to the city.

Besides the value of municipal use of water which the city is receiving free of cost, the annual expense for extending the distribution mains required since 1888 has been met from the receipts of the water department instead of by an annual appropriation from the public tax levy, as is the more general method in other cities.

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LUDLOW RESERVOIR.

By the emptying of this reservoir five years ago the water was then greatly improved and for the two years following a good quality of potable water was furnished.

Toward the last of the season of 1894 algæ again became abundant and last season the pond was full of it and the water was unfit for use.

As the rainfall has been unusually large during the past season we were able to obtain a full supply direct from the streams and did not use the water from the old reservoir.

Something will soon have to be done to purify this large body of water, as the wants of the city during seasons of drouth will soon require more than we shall be able to obtain from the streams by the present storage facilities.

As yet we are not ready to make any recommendations regarding this matter but the subject is being considered by both this Board and the State Board of Health.

CLAIMS.

The only claim for damages for the diversion of the waters of Jabish Brook settled during the past year was that of the Nathan W. Bond estate, which amounted to $3,800 by award of the Hampshire county commissioners.

There are pending claims of the mill owners on the Chicopee river, on which cases Frank P. Goulding, Esq., of Worcester, has been retained by the city.

As yet no hearing has been held but it is hoped these cases will come to a head the coming year.

DETAILS.

For the details of the finances and condition of same and the yearly work of the department, reference is invited to the

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reports of the Water Registrar and of the Superintendent submitted to the Board, which reports will be found hereto annexed and are made a part of the report of this Board to the City Council.

Respectfully submitted,

C. L. GOODHUE,
J. F. BIDWELL,
Board of Water Commissioners.

BOARD OF ALDERMEN, December 30, 1897.

Accepted, ordered printed and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 30, 1897.

Read, concurred.

W. E. GILBERT, *Clerk.*

Approved, December 31, 1897.

H. S. DICKINSON, *Mayor.*

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WATER REGISTRAR'S REPORT.

To the Board of Water Commissioners of the City of Springfield:

GENTLEMEN:—The following report of the Water Registrar for the fiscal year ending December 10, 1897, is herewith respectfully presented:—

For convenient reference I have again separated the statements given into three principal divisions, viz:—

1.—General Financial.
2.—Detail Financial.
3.—Miscellaneous.

GENERAL FINANCIAL STATEMENTS.

CASH ACCOUNT.

(*Exclusive of Ludlow Main No. 2 Fund.*)

To collections paid City Treasurer by City Collector, ...			$215,600 00
By approved bills and pay rolls paid by City Treasurer, as follows:—			
Total pay rolls approved, .	$30,141 29		
Less amounts uncalled for, .	3 67		
Total pay rolls paid, . .	$30,137 62		
Total bills approved, . .	43,564 39		
		$73,702 01	
By interest on water bonds paid by City Treasurer, ...		94,250 00	
By balance transferred to sinking fund by City Treasurer, ...		47,647 99	
			$215,600 00

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LUDLOW MAIN NO. 2 FUND.

To balance in hands of City Treasurer, December 10, 1896,	$427 27
By approved bills paid by City Treasurer, 1897, . .	000 00
To balance in hands of City Treasurer, December 10, 1897, .	$427 27

The net cost of construction and maintenance during the year has been charged to the following accounts:—

CONSTRUCTION.

Distribution mains—extensions, . .	$22,349 41	
Hydrant extensions, ...	227 50	
Gates and valves, ...	126 38	
Drinking fountains, ...	12 62	
Stable—Bridge street (alterations), . .	100 00	
Office improvements, first floor, . .	20 43	
Water rights, Jabish brook (settlement of claims on account of "Ludlow Reservoir Improvement" in 1890 and 1891), .	3,928 08	
Ludlow reservoir (land), . . .	15 00	
Belchertown reservoirs (fencing), . .	15 45	
Services—account permanent pavements (held as property account until paid for by abutters), ...	62 60	
Total, ...		$26,857 47

MAINTENANCE.

General:—		
Management and repairs, . . .	$21,294 11	
Interest, coupons, ...	94,250 00	
Taxes, ...	238 47	
		$115,782 58
Special:		
Engineering (mapping), . . .	$189 14	
Damages, ...	23 26	
Legal expense, ...	314 68	
Permanent pavement account (expense of examining, protecting and renewing mains, gates, services, etc.), .	187 32	
Distribution mains—renewals, . .	4,754 66	
		5,469 06
Total, ...		$121,251 64

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COST OF WATER WORKS.

Net total cost, December 10, 1896, . .		$2,039,379 11
Aggregate of construction accounts, 1897. .		26,857 47
Net total cost of water works to December 10, 1897, ...		$2,066,236 58
Divided as follows:—		
Balance of *old "Construction" account* in ledger to December 10, 1893 (in future to be analyzed and separated, so far as possible, into its component construction and property accounts), . . .	$1,656,562 98	
Net cost of *Ludlow Main No.* 2 to December 10, 1896, ...	317,784 28	
Aggregate of new construction and property accounts, as classified in ledger and annual reports since 1893, . . .	91,889 32	
Total as stated, ...		$2,066,236 58

BONDED DEBT.

(*As per Books of City Treasurer.*)

900 water bonds bearing interest at 7 per cent. (par value $1,000 each), issued in 1873 and 1874, and falling due as follows: $25,000 payable each year from April 1, 1898, to April 1, 1902, . . .	$125,000 00	
$775,000, all payable April 1, 1903, .	775,000 00	
		$900,000 00
200 water bonds bearing interest at 6 per cent. (par value $1,000 each), issued in 1875 and all due April 1, 1905, . .		200,000 00
125 water bonds bearing interest at 3½ per cent. (par value $1,000 each), issued in 1890 for Ludlow reservoir improvement, and all due October 1, 1920, . .		125,000 00
350 water bonds bearing interest at 4 per cent. (par value $1,000 each) issued in 1893 for Ludlow main No. 2, and due as follows: $200,000 payable April 1, 1913,	$200,000 00	
$150,000 payable October 2, 1923, . .	150,000 00	
		350,000 00
Total account water works, December 10, 1897,		$1,575,000 00

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SINKING FUND.

Balance in hand of sinking fund commissioners, December 10, 1896, . .		$168,035 20
Balance transferred from water works receipts of 1896, ...	$50,476 30	
Interest on investments, 1897, . . .	14,337 48	
		64,813 78
Balance in hands of sinking fund commissioners, December 10, 1897, . .		$232,848 98
Balance available from water works receipts of 1897, ...		47,647 99
Total amount available December 10, 1897,		$280,496 97

INVENTORY.

The value of stock, tools, office furnishings, etc., on hand December 1, 1897 (as per report of the Superintendent), is distributed to the following accounts:

Cast-iron pipe stock, ...	$6,535 19	
Wrought-iron pipe stock, ...	2,449 83	
Meter stock, ...	262 40	
Stores and supplies, ...	863 34	
Tools and machines, ...	2,932 95	
Office furniture and fixtures, ...	914 85	
Teams, ...	1,578 08	
Total, ...		$15,536 64

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DETAIL FINANCIAL STATEMENTS.

RECEIPTS.

The following statements of the collection accounts show the analysis of the cash receipts of the department.

BILLS COMMITTED AND CHARGED TO COLLECTOR.

COLLECTION ACCOUNTS.	Uncollected Dec. 10, 1896.	Committed During 1897.	Totals.
Water rates—annual, . . .	$711 71	$127,699 70	$128,411 41
Water rates—meter, . . .	388 55	56,599 85	56,988 40
Water rates—hose and fountains,	65 00	5,387 90	5,452 90
Water rates—builders, . .	277 70	1,410 39	1,688 09
Water rates—sprinkling streets,	. . . .	5,015 54	5,015 54
Water rates—miscellaneous, .	127 02	705 34	832 36
Total water accounts, . . .	$1,569 98	$196,818 72	$198,388 70
Services and repairs, . . .	$1,672 47	$14,923 33	$16,595 80
Meters and repairs, . . .	225 01	3,800 41	4,025 42
Fines and penalties, . . .	. . . .	194 00	194 00
Off and on, ...	3 72	43 92	47 64
Seals, ...	. . . .	1 72	1 72
Miscellaneous accts. (sales, etc.),	389 48	*4,235 09	4,624 57
Total other accounts, . . .	$2,290 68	$23,198 47	$25,489 15
Totals charged 1897, . .	$3,860 66	$220,017 19	$223 877 85

* The amount charged for "miscellaneous accounts" during 1897, includes the following:—

For rentals of land, etc., ...	$1,258 00
For bonus from real estate owners for extension of water mains, ...	825 00
For use of horse by sewer department in flushing sewers,	531 00
For shop sales of material, etc., ...	1,621 09
Total, ...	$4,235 09

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AMOUNTS ABATED TO COLLECTOR.

COLLECTION ACCOUNTS.	Amounts.	Totals.
Water rates—annual,	$4,264 66	
Water rates—meter,	98 92	
Water rates—hose and fountains,	208 00	
Water rates—builders,	89 90	
Water rates—miscellaneous,	20 30	
Total water accounts,	. . . .	$4,681 78
Services and repairs,	$174 11	
Meters and repairs,	82	
Fines and penalties,	14 00	
Off and on,	1 00	
Miscellaneous accounts,	15 70	
Total other accounts,	. . . .	205 63
Total abated, 1897,	. . . .	$4,887 41

AMOUNTS UNCOLLECTED.

COLLECTION ACCOUNTS.	Amounts.	Totals.
Water rates—annual,	$1,065 61	
Water rates—meter,	82 55	
Water rates—hose and fountains,	120 00	
Water rates—builders,	244 30	
Water rates—miscellaneous,	61 88	
Total water accounts,	. . . .	$1,574 34
Services and repairs,	$1,118 78	
Meters and repairs,	319 56	
Fines and penalties,	8 00	
Off and on,	5 61	
Miscellaneous accounts,	364 15	
Total other accounts,	. . .	1,816 10
Total uncollected, 1897,	. . .	$3,390 44

AMOUNTS COLLECTED AND PAID CITY TREASURER.

COLLECTION ACCOUNTS.	Amounts.	Totals.
Water rates—annual,	$123,081 14	
Water rates—meter,	56,806 93	
Water rates—hose and fountains,	5,124 90	
Water rates—builders,	1,353 89	
Water rates—sprinkling streets,	5,015 54	
Water rates—miscellaneous,	750 18	
Total water accounts,	. . . .	$192,132 58
Services and repairs,	$15,302 91	
Meters and repairs,	3,705 04	
Fines and penalties,	172 00	
Off and on,	41 03	
Seals,	1 72	
Miscellaneous accounts,	4,244 72	
Total other accounts,	. . .	23,467 42
Total collected, 1897,	. . .	$215,600 00

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RECAPITULATION.

DIVISIONS.	Water Accounts.	Other Accounts.	Totals.
Amounts collected,	$192,132 58	$23,467 42	$215,600 00
Amounts uncollected,	1,574 34	1,816 10	3,390 44
Amounts abated,	4,681 78	205 63	4,887 41
Amounts charged,	$198,388 70	$25,489 15	$223,877 85

The differences in the total collection accounts of 1896 and 1897 are shown as follows:—

COMPARISON : 1896–1897.

	1896.	1897.	DIFFERENCES 1897.
Amounts collected,	$213,522 14	$215,600 00	+$2,077 86
Amounts uncollected,	3,860 66	3,390 44	—470 22
Amounts abated,	4,437 48	4,887 41	+449 93
Amounts charged,	$221,820 28	$223,877 85	+$2,057 57

The following table of charges and receipts since 1885 *for water only*, shows more truly the annual growth of the cash income of the department than did the annual comparison of total cash received as given in preceding reports.

COMPARATIVE STATEMENT OF WATER RECEIPTS SINCE 1885.

(*On annual basis of twelve months.*)

YEAR.	Water Rates Charged.		Water Rates Collected.	
	Totals.	Increase.	Totals.	Increase.
1885	$93,421 60		$90,848 05	
1886	100,537 77	$7,116 17	97,298 78	$6,450 73
1887	108,140 94	7,603 17	105,451 52	8,152 74
1888	115,146 35	7,005 41	112,581 21	7,129 69
1889	126,220 72	11,074 37	122,541 52	9,960 31
1890	133,553 28*	7,332 56	129,913 27*	7,371 75
1891	140,604 85	7,051 57	136,985 11	7,071 84
1892	150,515 67	9,910 82	146,349 09	9,363 98
1893	164,894 65	14,378 98	160,936 78	14,587 69
1894	167,376 11	2,481 46	162,769 71	1,832 93
1895	182,357 49	14,981 38	178,421 15	15,651 44
1896	194,069 28	11,711 79	189,373 75	10,952 60
1897	196,818 72	2,749 44	192,129 20	2,755 45

*Amounts for 1890 estimated at $20,000 less than actual totals for that year, which include 15 months water rates—instead of 12—due to change of time in rendering the semi annual bills.

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INCOME:—VALUE ACCOUNTS.

For remarks concerning this class of the accounts I would again call attention to my reports of 1894 and 1895. The amounts entered on the ledger during 1896, are shown as follows:

USE OF WATER BY THE CITY.

(Charged and credited as shown below.)

Almshouse and annexed buildings, . .		$314 00
City hall, ...		94 00
Fire department (buildings), . . .	$625 00	
Fire department (hydrant service), 892 fire hydrants at $20 (amount fixed by city ordinance), ...	17,840 00	
		18,465 00
Highway department (city yards, etc.), .		47 00
Parks (fountains, $500; hose, $85), . .		585 00
Police department (buildings), . .		74 50
Scavenger department and Wayfarers' lodge,		74 00
School department (buildings), . .		3,165 75
Sewer department (building purposes), .	$5 20	
Sewer department (flushing), (amount fixed by city ordinance), ...	500 00	
		505 20
Watering tanks and drinking fountains, 11 at $50.		550 00
Amount charged (on ledger only) to "City of Springfield—special account," .		$23,874 45
(NOTE: Called a resource account in partial offset to liability accounts of City Bonds and appropriations.)		
Water department (buildings), amount charged (on ledger only) to "Expense," .		87 00
Total credited (on ledger as gain account) to "Water rates—city use," (forward,) .		$23,961 45

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"Total credited," etc., (see page 18) (forward),		$23,961 45

RENTS OF REAL ESTATE.

(Charged and credited as shown below.)

Superintendent's house, No. 37 Bridge street (charged to "Salaries"), . .	$300 00	
Hostler's and driver's house, No. 49 Bridge street (charged to "Teams"), . .	300 00	
Keeper's house, Ludlow reservoir (charged to "Care and repairs—Ludlow reservoir"), ...	180 00	
Keeper's house, Van Horn reservoir (charged to "Care and repairs—Van Horn reservoir"), ...	100 00	
Mowing land at Ludlow;—paid for by hay delivered; (charged to "Teams"), .	35 00	
Total credited to "Rents," . . .		915 00
Total, "Income:—Value accounts," .		$24,876 45

I am still of the same opinion, in regard to the value of "municipal use of water" appearing in the *cash receipts* of this department, as expressed in my previous reports on this subject.

EXPENDITURES.

The following statements show the distribution of the *net cost* of the principal construction and maintenance accounts during 1897.

CONSTRUCTION.

DISTRIBUTION MAINS—EXTENSIONS.

(See Superintendent's report for detail of location, etc.)

LOCALITY.	PIPE.	SIZE.	COST.
Abbe avenue, ...	702 feet,	6 inch,	$385 62
Alden street, ...	4 " 421 " 279 "	4 " 8 " 6 "	509 93
Amount carried forward,			$895 55

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LOCALITY.	PIPE.	SIZE.	COST.
Amount brought forward,			$895 55
Armory street,	42 feet, 92 "	1 inch, 2 "	16 09
Beaudry street, Indian Orchard,	498 "	6 "	292 15
Beaumont street,	688 "	6 "	376 02
Beechwood avenue,	289 "	6 "	173 65
Belmont avenue,	25 "	8 "	10 52
Benton avenue,	15 "	6 "	84 16
Benton street,	418 "	6 "	301 02
Berendo avenue,	389 "	6 "	249 59
Berkshire street, Indian Orchard,	247 "	6 "	150 04
Birnie avenue,	302 "	6 "	213 56
Boston road,	217 "	6 "	157 72
Bridge street,	135 "	6 "	168 87
Cambridge street,	448 "	6 "	221 29
Carew place,	166 "	4 "	138 21
Carlisle avenue,	53 "	6 "	95 29
Cedar street,	107 "	2 "	25 77
Chapel street,	365 "	6 "	198 34
Cleveland street,	11 "	6 "	24 66
Coleman street,	388 "	6 "	236 53
Concord street,	295 "	2 "	56 68
Concord terrace (labor charged private parties),	14 "	2 "	1 72
Continental avenue,	390 "	6 "	258 66
Cornell place,	106 "	1¼ "	18 53
Cottage avenue,	492 "	6 "	242 20
Crescent street,	252 "	6 "	140 84
Cross street,	142 "	1¼ "	30 44
Forest avenue,	587 "	6 "	351 61
Franklin street,	167 " 281 "	2 " 6 "	262 53
Granada terrace,	244 "	6 "	143 35
Grover street,	54 "	6 "	99 26
Gunn square,	142 "	1¼ "	23 73
Hampden street, Indian Orchard,	35 "	6 "	41 61
Hawthorne place,	229 "	6 "	109 19
Howard place,	160 "	4 "	70 33
Jasper street,	1,079 "	6 "	572 78
Jefferson avenue,	792 "	6 "	534 63
Johnson street,	52 "	6 "	35 27
King street,	523 "	6 "	276 72
Liberty street,	722 "	8 "	503 42
Amount carried forward,			$7,802 53

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LOCALITY.	PIPE.	SIZE.	COST.
Amount brought forward,			$7,802 53
Margaret street,	531 feet,	6 inch,	342 52
Marengo avenue,	1,350 "	6 "	915 20
Massasoit street,	900 "	6 "	421 56
Middlesex street,	306 "	6 "	132 33
Milton street, Indian Orchard,	694 "	6 "	384 71
National avenue,	388 "	6 "	222 35
Newland street,	42 "	6 "	110 67
Norfolk street,	84 "	6 "	39 79
North street, Ludlow, (additional connection at 24-inch main, for Ludlow Mfg. Co.),	....	12 "	174 02
Northampton avenue,	402 "	6 "	280 75
Oak street, Indian Orchard,	3,464 "	6 "	1,882 57
Orchard street,	205 "	6 "	104 34
Parker street, Indian Orchard,	2,502 " 920 "	6 " 4 "	1,585 75
Pasco street, Indian Orchard,	405 "	6 "	296 38
Pear street,	219 "	6 "	98 35
Plainfield street,	1,850 "	8 "	1,137 79
Pomona avenue,	612 "	6 "	362 82
Prospect street,	37 "	4 "	28 32
Railroad row (part cost),	171 "	6 "	174 62
Sorrento avenue,	259 "	6 "	207 29
Thomas street,	632 "	6 "	373 60
Ventura avenue,	930 "	6 "	477 08
Walker avenue,	651 "	6 "	344 47
Warwick street,	867 "	6 "	509 65
Water street,	404 "	8 "	368 87
Webster street,	668 "	6 "	421 87
Wellington street,	691 "	6 "	419 77
Westford avenue,	2,160 "	6 "	1,107 08
Wilbraham avenue,	377 "	8 "	324 45
Wilbraham road,	1,631 "	8 "	1,080 61
Willard avenue,	364 "	6 "	173 97
Worcester street, Indian Orchard,	46 "	6 "	43 33
Total,			*$22,349 41

* In making some of the above extensions there was received, from parties directly interested in the same, the total sum of $625 as "Bonus," which sum is included in "Miscellaneous Accounts" charged and paid to the Collector as shown under "Receipts."

Deducting this amount from the total cost of extensions given, the balance of $21,724.41 represents the actual expenditure from the ordinary receipts of the department.

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HYDRANT EXTENSION.

(Not charged to streets.)

LOCALITY.	COST.	TOTAL.
Setting additional hydrants.		
Armory street, opposite Truant school, (6″),	$66 00	
East Hooker street, at North Main, (N.) (6″),	64 01	
Teaming at Indian Orchard (account of 1896),	2 50	
		$132 51
*Replacing Matthews hydrants.**		
Broad street, S. W. cor. Main, (6″), . .	$8 28	
Broad street, S. E. cor. Hanover, (6″), .	8 28	
Central street, N. E. cor. Spruce, (6″), .	8 28	
Cross street, N. E. cor. Willow, (6″), . .	8 28	
Hillman street, N. E. cor. Main, (6″), . .	8 28	
Liberty street, S. E. cor. Main, (6″), . .	7 28	
Main street, opposite Hampden, (6″), .	21 47	
State street, N. E. cor. Main, (6″), . .	8 28	
Stockbridge street, N. E. cor. Willow, (6″), .	8 28	
Walnut street, S. E. cor. State, (6″), . .	8 28	
		94 99
Total, ...		$227 50

*Balance of cost charged to maintenance account, "Hydrants—Care and Repairs."

GATES AND VALVES

(Not charged to streets.)

Setting additional gates.	
Chestnut street, at east Taylor, (S), 6″ low, .	$38 52
Hampden street, near Water, 12″ low, .	76 41
National avenue, at end of street, 2″ high (flush), ...	11 45
Total, ...	$126 38

WATER RIGHTS—JABISH BROOK.

(Settlement of claims on account of "Ludlow Reservoir Improvement" in 1890 and 1891.)

Myra T. Gold, North Belchertown, release, .		$75 00
N. W. Bond Estate, Bondsville:		
Award by Hampshire County Commissioners, ...	$3,800 00	
Taxable costs of same, . . .	53 08	
		3,853 08
Total, ...		$3,928 08

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MAINTENANCE.

MANAGEMENT AND REPAIRS.

Salaries (superintendence and accounting),	$7,932 40	
Inspection (salaries and expenses),	2,885 42	
Teams, (balance undistributed),	402 92	
Tools and machines (net loss),	509 27	
Office furniture and fixtures (net loss),	143 04	
Stationery and printing,	249 63	
Office account, (janitor, supplies, etc.),	536 55	
Heat and light,	256 85	
Expense account,	243 58	
Telephone service,	146 24	
Off and on (services),	218 28	
Refunds,	54 20	
Expense, city departments,	41 47	
Frozen services,	16 80	
Petty maintenance,	718 70	
		$14,305 35
Care and repairs, Van Horn reservoirs,	$573 81	
" " Ludlow reservoir,	1,053 29	
" " Belchertown reservoirs,	803 40	
" " Chapin pond, " " Emergency supply,	13 41	
" " Ludlow main No. 1 (24 inch),	87 92	
" " Ludlow main No. 2 (36 inch, etc.),	21 80	
" " Distribution mains, cast iron,	237 91	
" " Distribution mains, wrought iron,	672 60	
" " Gates and valves,	212 47	
" " Hydrants,	967 02	
" " Standpipes,	440 27	
" " Drinking fountains,	34 98	
" " Meters (net),	71 49	
" " Services,	1,625 36*	
" " Private telephone lines,	18 30	
" " Indian Leap Bridge,	22 67	
		6,856 70
Amount carried forward,		$21,162 05

* "Care and Repairs—Services" may be analyzed as follows:

Acct. of corporation cocks, leaks, etc.,	$305 80
" putting on pump,	63 16
" stoppage by eels,	36 15
" putting new stops inside curb line,	88 79
" changing mains, relocating stops, etc.,	485 96
" macadamizing streets,	645 50
Total,	$1,625 36

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Amount brought forward,		$21,162 05
Repairs, No 37 Bridge street, . . .	$3 06	
" No. 43 Bridge street, . . .	29 07	
" Stable, Bridge street, . . .	1 71	
" No. 49 Bridge street, . . .	81 41	
" House, Van Horn reservoir, . .	16 81	
		132 06
Total, ...		$21,294 11

INTEREST ON BONDS.

$925,000 at 7 per cent., 6 months,* .	$32,375 00*	
$900,000 at 7 per cent., 6 months,* .	31,500 00*	
$200,000 at 6 per cent., 12 months, . .	12,000 00	
$125,000 at 3½ per cent., 12 months, . .	4,375 00	
$350,000 at 4 per cent., 12 months, . .	14,000 00	
Total, ...		$94,250 00

TAXES.

On reservoir property at Belchertown, as follows:—

Per acts of 1893, *chapter* 352.

Account of 1894, . . .	$10 23	
" " 1895, . . .	8 94	
" " 1896, . . .	11 09	
Previously withheld, . .	$30 26	
Account of 1897, . . .	10 52	
Per acts of 1890, *chapter* 303.		
Account of 1897, . . .	52 19	
		$92 97

On reservoir property at Ludlow :—

Per acts of 1893, *chapter* 352.

Account of 1897, . . .		145 50
Total, ...		$238 47

"PERMANENT PAVEMENT" ACCOUNT.

(*Cost of examination and preparation of water pipe system for special street pavements.*

Elm and Court streets (around Court square),	$97 67
Main street, Franklin to Carew, . .	89 65
Total, ...	$187 32

* Twenty-five $1,000 7 per cent. bonds, due and paid April 1, 1897.

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DISTRIBUTION MAINS—RENEWALS.

LOCALITY.	PIPE.	SIZE.		COST.
Carew street, . .	773 feet, 5 "	8 inch, 16 "		$777 23
Central street avenue (account 1896), .	. . . .	. . . .		11 45
Chestnut street, .	335 "	6 "	$315 07	
Worthington street, .	35 "	6 "	58 86	
				373 93
Hampden street, .	28 "	12 "		84 15
High street, . .	807 "	6 "		650 66
Maple street, . .	2,138 "	6 "	$2,074 05	
Avon place, . .	57 "	4 "	35 24	
Central street, .	22 "	6 "	29 48	
Mulberry street (gate box), . .	. . . .	. . . .	2 90	
Park street, . .	30 "	6 "	21 32	
Union street, .	7 "	6 "	8 33	
				2,171 32
Pearl street, . . .	992 "	6 "	$663 54	
Webster avenue, .	6 "	4 "	20 56	
				684 10
Railroad row,* . .	171 "	6 "		*1 82
Total, . .				$4,754 66

* Part cost only:—balance charged to "Extensions."

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MISCELLANEOUS STATEMENTS.

FINES AND PENALTIES.

The following statement shows the number of fines and penalties (of $2 each) due, charged, collected, abated and uncollected during 1897, the number charged being also the number of premises ordered shut off to enforce payment of same.

DIVISIONS.	For Unpaid Bills.		For Waste unchecked.	Total Number.
	Due Before 1897.	Due in 1897.		
Number uncollected, 1896 (forward),	0	0	0	0
Number charged during 1897, . .	0	97	0	97
Total charged collector, 1897, . .	0	97	0	97
Number collected during 1897, . .	0	86	0	86
Number abated during 1897, . .	0	7	0	7
Number uncollected, 1897 (forward),	0	4	0	4
Total, as above, ...	0	97	0	97

METERS AND INDICATORS.

Total number in use October 1, 1896, . . .		2,299
Number of meters (on service pipes), added (net), .	191	
Number of indicators (on elevators and motors) added (net),	6	
Net total number added to October 1, 1897, .		197
Total number in use October 1, 1897, (see table of same following),		2,496

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Total quantity of metered water charged during 1897,	**358,841,156 gallons.**
Average quantity charged per meter or indicator,	**143,766 "**
Total amount charged during 1897,	**$56,599 85**
Average amount charged per meter or indicator,	**$22 67+**
Average rate charged per 1,000 gallons,	**15 77+ cents.**

TABLE OF METERS AND INDICATORS.

(*To October* 1, 1897.)

Kind and Size.	½"	⅝"	¾"	1"	1½"	2"	3"	4"	6"	Indicators.	Totals.
Meters.											
Ball & Fitts, Piston	....	....	1	....	....	....	....	....	....	....	1
Crown	844	....	569	58	12	13	1	1	....	....	1,498
Desper	6	....	2	....	....	1	....	....	....	....	9
Empire	....	....	....	3	....	....	....	....	....	....	3
Hersey (rotary)	...	240	306	24	12	8	..	5	1	....	596
Hersey (disc)	...	47	35	3	1	....	....	....	....	....	86
Nash	20	....	27	5	1	....	....	....	....	....	53
Thomson	....	7	8	2	1	....	....	....	....	....	18
Undine (and Hartford)	4	....	4	....	..	....	....	....	....	....	8
Union Duplex	....	1	1	....	....	....	....	....	....	....	2
Union Rotary	....	58	19	2	1	3	...	....	....	....	83
Worthington	....	11	6	....	3	2	....	....	....	....	22
											2,379
Indicators.											
Desper (for elevators)	....	....	....	....	....	....	....	....	..	88	
Desper (" motors)	....	....	....	....	....	...	....	....	....	1	
Friction (" elevators)	....	....	....	....	....	....	....	....	...	3	
Graves (" ")	....	....	...	....	....	....	....	....	....	7	117
Ross (" motors)	....	....	....	....	....	....	....	...	....	2	
Whitney (" ")	....	....	...	....	....	....	....	....	...	7	
Whittier (" elevators)	....	....	....	....	....	....	....	....	....	7	
Worthington (" ")	...	....	....	....	....	....	....	....	....	2	
Totals	874	364	978	97	31	27	1	6	1	117	2,496

INSPECTION.

It appears unnecessary for me to make any extended remarks about this branch of the work at this time, as the ground has been fully covered by the suggestions and recommendations to be found in my previous reports, and to which attention is again invited.

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The usual classification of the inspection work for the year and of the time spent by each of the three inspectors under the several divisions, is shown as follows :

CLASSIFICATION.	Inspectors.			Total no. of days.
	No. 1.	No. 2.	No. 3.	
	Days.	Days.	Days.	
Reading and inspection of meters	91	176	164	431
Turning on and off $8 hose	0	4	0	4
Inspection of hose use—general	0	19	7	26
General or "house-to-house" inspection	26	59	52	137
Semi-annual and monthly inspection (billing)	77	5	3	85
Monthly inspection of vacancies reported	0	0	44	44
Special inspection (leaks, bills and collections)	0	12	8	20
Special inspection (real estate sales)	19	0	0	19
Office work	77	15	12	104
Sickness, etc.	0	0	0	0
*Total (290 working days in the year)	290	290	290	870

*The total working days during 1897 were less than in previous years on account of the Saturday half-holidays during the summer.

By comparing the above with the similar classification in previous years, we note that *more time is required* each year for the "reading and inspection of meters," and that consequently *less time is left* each year for the "house-to-house inspection."

The growth of the meter inspection, since a third inspector was added in May, 1891, is shown by the following and is quite suggestive.

YEAR.	TIME SPENT.
In 1891, . . .	213 days.
" 1892, . . .	244 "
" 1893, . . .	250 "
" 1894, . . .	307 "
" 1895, . . .	362 "
" 1896, . . .	404 "
" 1897, . . .	431 "

It is thus seen that this particular work has more than doubled during the past six years.

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Leaking fixtures to the number of 416 have been found on unmetered premises during the past year.

These cases have been recorded and followed up and the waste caused to be stopped.

STATISTICS.

Annexed will be found the usual comparative statement showing a classification of consumers supplied at date together with a summary of statistics for the year, as recommended by the New England Water Works Association.

Respectfully submitted,

A. R. HATHAWAY, *Water Registrar.*

SPRINGFIELD, MASS., December 30, 1897.

BOARD OF WATER COMMISSIONERS, December 30, 1897.

Accepted and ordered made a part of the report of the board to the City Council.

A. R. HATHAWAY, *Clerk.*

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COMPARATIVE STATEMENT,

Showing the Classes of Consumers and the Number of Each Class Supplied by the Aqueduct Company in 1864, and by the City in 1874, 1880, 1890, 1896, 1897.

CLASSES.	1864.	1874.	1880.	1890.	1896.	1897.*
Bakeries	.....	.....	8	15	29	30
Banks	2	9	12	15	16	16
Barber Shops	2	14	3	30	63	73
Baths	.....	439	829	2,654	6,237	6,595
Beer Pumps	.....	.....	.....	.....	54	66
Boarding Houses	.....	33	55	97	113	68*
Breweries	.....	.....	2	2	2	2
Cemeteries	.....	.....	1	5	6	6
Churches (from 1895)	.....	.....	.....	.....	35	34
Churches, Halls and Public Buildings (to 1895)	2	12	14	60	.....	....
Clubs, Societies, etc. (from 1897)	.....	.....	.....	.....	.....	33
Dyehouses and Bleacheries	2	2	3	3	5	4
Elevators	.....	.....	15	96	131	134
Families	1,288	3,637	4,893	8,511	12,438	13,175
Fish Tanks and Aquariums	.....	.....	.....	8	6	11*
Foundries	4	5	6	12	11	13
Fountains (private)	.....	.....	12	18	10	11
Fountains (public)	.....	.....	.....	10	11	12
Gas Works	.....	.....	1	1	1	1
Greenhouses	2	3	9	8	14	17
Halls (from 1895)	.....	.....	.....	.....	25	43*
Hose	.....	.....	885	1,857	3,375	2,913*
Hotels	7	12	15	20	18	19
Laundries	.....	6	6	25	39	37
Manufactories	6	50	80	78	64	77*
Markets	8	31	54	60	80	93*
Motors	.....	.....	13	44	41	40
Offices and Rooms	.....	88	521	1,088	1,639	1,659
Parks (from 1895)	.....	.....	.....	.....	12	12
Photographers	.....	6	9	11	10	10
Printers and Publishers	.....	.....	.....	25	26	23
Public Buildings and Institutions (from 1895)	.....	.....	.....	.....	19	21
Public Institutions (to 1895)	.....	.....	.....	6	.....	....
Railroads	.....	.....	3	4	4	4
Restaurants	5	14	17	24	30	40*
Saloons	9	34	32	45	44	45
Schools (total to 1897)	.....	12	15	33	37	....
Schools (private) (from 1897)	.....	.....	.....	.....	.....	14
Schools (public) (from 1897)	.....	.....	.....	.....	.....	27
Shops	18	51	88	189	225	302*
Slaughterhouses	....	.....	.....	1	.....	....
Stables (private)	82	274	379	704	1,059	1,141
Stables (public)	6	14	23	30	25	28
Steam Engines	.....	.....	48	74	85	106*
Steam Heaters	.....	.....	32	104	439	701
Stores	125	225	320	359	495	571
Street Railways (from 1895)	.....	.....	.....	.....	1	1
Urinals	.....	131	296	435	385	443*
Water Closets	.....	1,192	2,402	6,792	12,076	13,373
Watering Tanks and Drinking Fountains	.....	.....	.....	12	10	11

***Note.—The unusual variations of 1897 totals of certain classes (marked *) from previous totals are due to the following causes, viz :—*Boarding Houses*; basis of classification changed from four to eight boarders. *Fish Tanks and Aquariums*; previous totals for fish tanks only. *Hose*; unusually wet hose season. *All others*; a more exact and detailed count from rate books.**

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SUMMARY OF STATISTICS.

(As Recommended by the New England Water Works Association.)

REPORT OF 1897.

Springfield Water Works, Hampden County Mass.

Population by census of 1895, ... 51,534
(*Estimated by assessors for* 1897, = 56,689.)

Dates of construction :

Original works in city, by private company, 1864
(Sale of same to city, 1872.)
Works at Ludlow, Mass., . . 1873–1874–1875
Works at Belchertown, Mass., . . 1890–1891
Additional main from Ludlow reservoir, 1893–1894

By whom owned, ... City of Springfield.

Sources of supply :

Low pressure—from impounding reservoirs in the city, fed by springs, surface water, and also by the high pressure.

High pressure—from impounding reservoirs in Ludlow and Belchertown, fed by natural streams, springs and surface water.

(Aggregate storage capacity, 2,304,762,000 gallons.)

Mode of supply, ... entirely by gravitation.

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FINANCIAL.

(NOTE.—All expenditures, including ordinary extension of mains, etc., are made from general receipts—from water rates, sales, etc., but *amount* of such expenditure for *extension of mains* is annually determined by the City Council.)

MAINTENANCE.

RECEIPTS.

INVENTORY of material, tools, etc., on hand Dec. 10, 1896			$12,147 58
FROM CONSUMERS (Division II):			
N. Water rates, fixed	$130,306 73		
Q. Water rates, meter	56,806 93		
C. Net receipts for water (from consumers)	$187,113 66		
D. & U. Other sources, (services, meters, repairs, rents, sales, etc.) (See "Services"—under "Distribution"—18, 19, 20, etc., note)	23,470 80		
E. Total		$210,584 46	
FROM PUBLIC FUNDS:			
F. Hydrants, 892 at $20, (*value*)	$17,840 00*		
G. Fountains, tanks, sewers, etc., (*value*)	1,640 20*		
H. Street watering, (*cash*)	5,015 54		
I. Public buildings and departments, (*value*)	4,481 25*		
J. General appropriations, for bonded debt, (*cash*)	25,000 00		
Total		53,976 99	
FROM REAL ESTATE RENTALS:			
House rent given employes in part payment for services, and mowing land rented at Ludlow, paid for by hay, (*value*)		915 00*	
K. Gross receipts from all sources, 1897, (*cash and value*)			265,476 45
Total available (including material, etc., from previous year)			$277,624 03

EXPENDITURES.

GENERAL ACCOUNT:—			
AA. Management and repairs	$21,294 11		
BB. Interest on bonds	94,250 00		
Taxes on reservoir prop'ty	238 47		
		$115,782 58	
SPECIAL ACCOUNT:—			
Legal expense	$314 68		
Distrib'n mains, renewals	4,754 66		
Pumping station, Chapin Pond (operating)	00 00		
Permanent pavement expense (examining, protecting and renewing mains, gates, services, etc.)	187 32		
Miscellaneous accounts	212 40		
		5,469 06	
CC. Total maintenance for year		$121,251 64	
GG. (Including same under "Construction")—Services, meters, repairs, etc. (labor and material charged to consumers and included in "Receipts" under "D & U.")		17,455 84	
Bonds paid		25,000 00	
Gross expenditures			$163,707 48
DD. BALANCE divided as follows:			
Amount used for construction		$26,857 47	
Cash available for sinking fund		47,047 99	
Value city use of water, charged to City of Springfield		23,874 45	
Inventory of material, tools, etc., on hand Dec. 10, 1897		15,536 64	
			113,916 55
EE. Total (in balance with receipts)			$277,624 03

* No *cash* income derived, but estimated amounts charged and credited in ledger and annual report.

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CONSTRUCTION.

RECEIPTS.		EXPENDITURES.		
R. Balance from previous year (account "Ludlow Main No. 2")	$427 27	FF. Extensions, distribution mains		$22,349 41
Amount from maintenance receipts	26,857 47	GG. Extension, services (paid for by consumers, see "Maintenance")		.....
S. Bonds issued	00 00	HH. Special:—		
T. Appropriations from tax levy (see *note* under "Financial")	00 00	(a) Ludlow Main No. 2	$00 00	
U. Other sources (included with "D" under maintenance receipts)	.....	(b) Hydrant extensions	227 50	
		(c) Services—account of permanent pavements (called construction until abutters use and pay for them)	62 60	
		(d) Water rights — Jabish brook, (claims paid on account of "*Ludlow Reservoir Improvement*" in 1890 and 1891	3,928 08	
		(e) Miscellaneous	289 88	4,508 06
		II. Total construction for year		$26,857 47
		JJ. Balance (account "Ludlow Main No. 2")		427 27
V. Total available,	$27,284 74	KK. Total (in balance with receipts)		$27,284 74

GENERAL STATEMENTS.

W. Net cost of works to date,			$2,066,236 58
X. Bonded debt at this date,			1,575,000 00
Y. Value of sinking fund at this date,			280,496 97
Z. Rate of interest on bonded debt :—			
7 per cent. on	$900,000 00		
6 per cent. on	200,000 00		
4 per cent. on	350,000 00		
3½ per cent. on	125,000 00		
Average rate 5.92+ per cent. on		$1,575,000 00	

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FINANCIAL.

(NOTE.—All expenditures, including ordinary extension of mains, etc., are made from general receipts—from water rates, sales, etc., but *amount* of such expenditure for *extension of mains* is annually determined by the City Council.)

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E. Total		$210,584 46	
FROM PUBLIC FUNDS:			
F. Hydrants, 892 at $20, (*value*)	$17,840 00*		
G. Fountains, tanks, sewers, etc., (*value*)	1,640 20*		
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Miscellaneous accounts	212 40	5,469 06	
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GG. (Including same under "Construction")—Services, meters, repairs, etc. (labor and material charged to consumers and included in "Receipts" under "D & U.")		17,455 84	
Bonds paid		25,000 00	
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EE. Total (in balance with receipts)			$277,624 03

* No *cash* income derived, but estimated amounts charged and credited in ledger and annual report.

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CONSTRUCTION.

Receipts.		Expenditures.		
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Amount from maintenance receipts	26,857 47	GG. Extension, services (paid for by consumers, see "Maintenance")		.....
S. Bonds issued	00 00	HH. Special:—		
T. Appropriations from tax levy (see *note* under "Financial")	00 00	(a) Ludlow Main No. 2	$00 00	
U. Other sources (included with "D" under maintenance receipts)	.....	(b) Hydrant extensions	227 50	
		(c) Services—account of permanent pavements (called construction until abutters use and pay for them)	62 60	
		(d) Water rights—Jabish brook, (claims paid on account of "*Ludlow Reservoir Improvement*" in 1890 and 1891	3,928 08	
		(e) Miscellaneous	289 88	4,508 06
		II. Total construction for year		$26,857 47
		JJ. Balance (account "Ludlow Main No. 2")		427 27
V. Total available,	$27,284 74	KK. Total (in balance with receipts)		$27,284 74

GENERAL STATEMENTS.

W. Net cost of works to date,			$2,066,236 58
X. Bonded debt at this date,			1,575,000 00
Y. Value of sinking fund at this date,			280,496 97
Z. Rate of interest on bonded debt :—			
7 per cent. on	$900,000 00		
6 per cent. on	200,000 00		
4 per cent. on	350,000 00		
3½ per cent. on	125,000 00		
Average rate 5.92+ per cent. on		$1,575,000 00	

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CONSUMPTION.

1.	Total population at date, (assessors estimate),	56,689
2.	Estimated population on lines of pipe at date,	50,000
3.	Estimated population supplied at date, .	44,000
4.	Total number gallons consumed for year (Estimated), ...	1,825,000,000 gallons.
5.	Passed through domestic meters, .	358,841,156 gallons.
6.	Passed through manufacturing meters, (or 19.66–/– per cent.)	
7.	Average daily consumption (estimated), .	5,000,000 gallons.
8.	Gallons per day to each inhabitant (estimated) (1), ...	88
9.	Gallons per day to each consumer (estimated) (3), ...	113
10.	Gallons per day to each tap (estimated) ("Distribution," 22), ...	573

DISTRIBUTION.

MAINS.

1.	Kind of pipe used;—wrought-iron, wrought-iron cement lined, and cast-iron.		
2.	Sizes;—from ¾ to 36 inches.		
3.	Extended in 1897 (added to pipe table), .		44,902 feet.
4.	Discontinued in 1897 (deducted from pipe table,)		8,434 feet.
5.	Total now in use, ...		134.71 miles.
6.	Cost of repairs per mile, ...		$7 57–/–
7.	Number of leaks per mile, ... (Total leaks during year—85)		$\frac{63}{100}$ –
8.	Small distribution mains,—less than 4 inches in diameter,—total length, . . .		88,460 feet.
9.	Hydrants added in 1897, (public) net, . .		51
10.	Number of public hydrants now in use, .		892
11.	Stop gates added in 1897, (public and private) net, ...		138
12.	Number of stop gates now in use, . .		1,683
13.	Small stop gates, less than 4 inches—total, .		297
	(a) High service, ...	183	
	(b) Low service, ...	114	
14.	Number of blow-off gates, ...		86

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15. Range of pressure on mains at center for day and night:
    (a) High service, ... 100 to 120 pounds
    (b) Low service, ... 30 to 35 pounds

SERVICES.

16. Kind of pipe used;—wrought-iron (tarred and galvanized) and cast-iron.
17. Sizes from ½ to 6 inches.
18. Extended in 1897 (in feet).
19. Discontinued in 1897 (in feet).
20. Total now in use (in miles).

NOTE.—Services paid for entirely by the consumers, and no special statistics kept of them.

21. Service taps added (net), . . . 423
22. Number of service taps now in use, . . 8,721
23. Average length of service,
24. Average cost of service,

(See note under 18, 19, 20.)

25. Meters added (including indicators), (net), . 197
    (a) Meters added, ... 191
    (b) Indicators added, . . . 6
26. Number of meters now in use (including indicators), ... 2,496
    (a) Meters (on supply pipes), . . 2,379
    (b) Indicators (on elevators and motors), . 117
27. Motors and elevators added (net), . . 2
    (a) Motors added, 4; discontinued, 5; . —1
    (b) Elevators added, 8; discontinued, 5; . +3
28. Number of motors and elevators now in use, . 174
    (a) Motors, ... 40
    (b) Elevators, ... 134

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SUPERINTENDENT'S REPORT.

To the Board of Water Commissioners:

GENTLEMEN:—I hereby submit the twenty-fourth annual report of the Superintendent for the year ending November 30, 1897.

The amount of pipe laid, the number of gates and fire hydrants set, the amount of pipe discontinued, and the number of gates and fire hydrants taken out, are shown in the following tables.

MAIN PIPE LAID, GATES AND HYDRANTS SET.

NUMBER.	Extensions.	Renewals.	Private.	Totals.
Feet of Pipe laid—High service,	33,522	807	263	34,592
Feet of Pipe laid—Low service,	5,586	4,434	0	10,020
Totals laid, ...	39,108	5,241	263	44,612
Added to tables (changes, etc.,)	200	0	90	290
Totals, ...	39,308	5,241	353	44,902
Gates set—High service, . .	66	2	50	118
Gates set—Low service, . .	14	8	20	42
Totals set, ...	80	10	70	160
Added to tables (account previous years), ...	2	0	0	2
Totals, ...	82	10	70	162
Fire hydrants set—High service,	41	10	0	51
Fire hydrants set—Low service,	11	3	0	14
Totals, ...	52	13	0	65

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MAIN PIPE, GATES AND HYDRANTS TAKEN OUT OR ABANDONED.

NUMBER.	TOTALS.
Feet of Pipe—High service,	666
Feet of Pipe—Low service,	7,768
Total,	8,434
Gates—High service,	5
Gates—Low service,	19
Total,	24
Fire Hydrants—High service,	10
Fire Hydrants—Low service,	4
Total,	14

There are now in use 134.71 miles of supply and distribution mains, a net addition of 6.91 miles the past season.

Six hundred fifty-two service taps have been made, a net addition of 423 in use. The total number now connected with the system is 8,721.

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RAINFALL.

The table which follows shows the amount of rain and melted snow in inches, as registered at Belchertown, Ludlow, the U. S. Armory and the City Engineer's office in this city, during the year ending November 30, 1897.

MONTHS.	Belchertown.	Ludlow Reservoir.	U. S. Armory.	Engineer's Office.
	Inches.	Inches.	Inches.	Inches.
December, 1896, .	1.45	1.41	1.37	1.05
January, 1897, . .	3.99	2.77	3.99	2.57
February, 1897, .	2.19	2.25	2.69	2 02
March, 1897, . .	3.97	3.27	3.07	2.90
April, 1897, . . .	2.59	2.75	2.24	2.35
May, 1897, . . .	5.13	4.74	4.70	4.02
June, 1897, . . .	4.86	5.21	6.22	5.78
July, 1897, . . .	9.86	13.12	14.99	14.68
August, 1897, . .	4 95	4.32	4.07	4.21
September, 1897, .	1.29	1.86	1.52	1.51
October, 1897, . .	0.64	0.93	1.64	1.65
November, 1897, .	5.85	6.49	5.15	6.15
Totals, . . .	46.77	49.12	51.65	48.79
Mean, . . .	3.89+	4.09+	4 30+	4.06+

MAINTENANCE.

Eighty-five leaks have been repaired this season, an average of $\frac{63}{100}$ -|- to the mile of pipe in use. The following table shows the size and kind of pipe on which they occurred.

KIND OF PIPE.	2″	3″	4″	6″	8″	10″	12″	16″	20″	24″	30″	36″	Totals
Cement-lined, .	5	16	7	16	8	0	0	1	0	4	0	0	57
Cast-iron, . . .	0	0	1	6	6	3	7	3	0	0	2	0	28
Totals, . .	5	16	8	22	14	3	7	4	0	4	2	0	85

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The works as a whole are in good condition. The main lines from Ludlow have given us no serious trouble. The late inspection of these lines revealed no defects that could be detected from the surface of the ground. All gates and fire hydrants have received the usual annual inspection, and have been repaired when found necessary. The Belchertown and Ludlow divisions are in first-class order, having been well cared for by Francis Blackmer and Thomas P. Conroy, the keepers, who reside on the spot. The water in the Ludlow reservoir is down about eight feet below the rollway. The Knight and Gold reservoir is full. The custom which has prevailed for many years, of sending samples of water to the State Board of Health for analysis, has been continued, two samples each month having been sent them for most of the season.

INVENTORY.

The amount of stock, tools and fixtures on hand December 1, 1897, is $15,536.64.

STATISTICS.

Annexed will be found tables showing the size and location of pipe laid, gates and hydrants set, pipe, gates and hydrants taken out; also location of fountains, fire reservoirs, watering tanks, fire hydrants, standpipes, and main and distribution pipe.

Respectfully submitted,

J. C. HANCOCK, *Superintendent.*

SPRINGFIELD, MASS., December 30, 1897.

BOARD OF WATER COMMISSIONERS, December 30, 1897.

Accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

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WATER PIPE LAID AND TAKEN OUT IN 1897.

INCLUDING ALL CHANGES IN PIPE TABLES.

LOCATION.	Size in Inches.	Material.	Length in Feet.		
			High Service.	Low Service.	Totals.
Pipe Laid by Private Parties.					
Beaudry street, I. O., south from 6" (S. R.—10,768)	1	Wrought iron.	60	....	60
Milton street, I. O., south from 6" (S. R.—10,779 10,780)	1¼	"	203	....	203
Market street, south from East Court (account 1885—S. R.—4,262)	3	"	90	....	90
Total wrought-iron laid by private parties	....	.....	353	....	353
Pipe Laid by City.					
Armory street, extension, north to near Summer	1	Wrought iron.	42	...	
Franklin street, near Webster, east (connecting 6" and 2")	1	"	4	....	
Walker avenue, south from Franklin (connecting to 6")	1	"	15	....	
Webster street, north from Liberty (262 feet of high service bought of Gurdon Bill)	1	"	....	....	61
Cornell place, north from Cornell st	1¼	"	106	....	
Cross street, west from Willow	1¼	"	....	142	
Gunn square, south side, east from Northampton avenue	1¼	"	142	....	390
Armory street, north from 8" (for S. R.—10,661)	2	"	92	....	
Cedar street, extension west	2	"	107	....	
Concord street, south from Rimmon avenue	2	"	295	....	
Concord terrace, extension north,	2	"	14	....	
Franklin street, extension west, to near Webster street, east	2	"	167	....	
Marengo avenue, south side of Marengo park	2	"	590	....	1,265
Total wrought iron laid by city.	....	.....	1,574	142	1,716
Alden street, at Hickory	4	Cast-iron.	4	....	
Avon place, at Maple	4	"	....	57	
Carew place, north from Carew st.	4	"	....	166	
Howard place, south from Howard street	4	"	....	160	
HYDRANTS, sundry sts., as follows:	4	"	....	....	
Carew place	....	"	....	6	
Parker street, I. O.	....	"	12	....	
Pasco street, I. O.	....	"	8	....	
Ventura avenue	....	"	11	....	

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WATER PIPE LAID, ETC., IN 1897—CONTINUED.

LOCATION.	Size in Inches.	Material.	Length in Feet.		
			High Service.	Low Service.	Totals.
Parker street, south from Oak, I.O	4	Cast-iron.	920	....	
Prospect street, completion, to Massasoit, west	4	"	....	37	
Warwick street (name changed from "Cycle street") (P)	4	"	....	....	
Webster avenue, at Pearl street, north	4	"	....	6	1 387
Abbe avenue, completion to Fisk avenue	6	"	....	702	
Alden street, Logan to Wilbraham avenue	6	"	279	....	
Beaudry street, I.O, south from Main	6	"	498	....	
Beaumont street, north from Belmont avenue	6	"	688	....	
Beechwood avenue, extension to Spruceland	6	"	289	....	
Benton avenue, east from Benton street	6	"	15	..	
Benton street, from 4" to Wilbraham road	6	"	418	...	
Berendo avenue	6	"	389	....	
Berkshire street, I. O., completion to Oak, west	6	"	247	....	
Birnie avenue, north from Thomas street	6	"	....	302	
Boston road, Jasper street to Coleman	6	"	217	..	
Bridge street, east from Dwight	6	"	135	....	
Cambridge street, completion	6	"	448	...	
Carlisle street, south from Wilbraham road	6	"	53	....	
Central street at Maple, west	6	"	....	22	
Chapel street, east from Eastern avenue	6	"	365	....	
Chestnut street, East Taylor to Worthington	6	"	...	335	
Cleveland street, completion to Liberty	6	"	11	....	
Coleman street, south from Boston road	6	"	388	....	
Continental avenue, south from Sumner	6	"	390	....	
Cottage avenue, east from Walnut street (separation from Melrose street=296 feet of high service)	6	"	....	....	
Cottage avenue, extension north and east	6	"	492	....	
Crescent street, north from Springfield	6	"	252	....	
Forest avenue, south from Belmont	6	"	587	...	
Franklin street, east from Webster (to 2")	6	"	83	....	
Franklin street, east from Chestnut	6	"	....	198	
Granada terrace, completion to Pomona avenue	6	"	244	....	
Grover street, west from Liberty	6	"	54	...	
Hampden street, I. O., 4" to Oak, west	6	"	35	....	
Hawthorn place, extension to Park avenue	6	"	229	....	

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WATER PIPE LAID, ETC., IN 1897—CONTINUED.

LOCATION.	Size in Inches.	Material.	Length in Feet.		
			High Service.	Low Service.	Totals.
High street, Maple to School	6	Cast-iron.	807	....	
HYDRANTS, sundry sts., as follows:	6	"	....	....	
Abbe avenue	....	"	....	5	
Alden street	....	"	11	....	
Armory street	....	"	8	....	
Beaudry street, I. O	....	"	7	....	
Beaumont street	....	"	8	....	
Benton avenue	....	"	7	....	
Benton street	....	"	10	....	
Berendo avenue	....	"	12	....	
Birnie avenue	....	"	....	5	
Boston road	....	"	6	....	
Bridge street	....	"	11	....	
Carew street	....	"	....	7	
Carlisle street	....	"	9	....	
Coleman street	....	"	8	....	
Continental avenue	....	"	7	....	
East Hooker street	....	"	9	....	
Forest avenue	....	"	9	....	
Franklin street	....	"	....	13	
Grover street	....	"	7	....	
High street	....	"	6	....	
Hillman street	....	"	9	....	
Jefferson avenue	....	"	16	....	
King street	....	"	6	....	
Liberty street, S. E. cor. Main	....	"	6	....	
Main street, opp. Hampden	....	"	3	....	
Main street, cor. Rutledge ave	....	"	8	....	
Maple street	....	"	....	31	
Margaret street	....	"	9	....	
Marengo avenue	....	"	19	....	
Milton street, I. O	....	"	10	....	
Newland street	....	"	....	7	
Northampton avenue	....	"	7	....	
Oak street, I. O	....	"	21	....	
Parker street, I. O	....	"	14	....	
Pasco street, I. O	....	"	9	....	
Pearl street	....	"	....	6	
Pomona avenue	....	"	8	....	
Railroad row	....	"	....	5	
Sorrento avenue	....	"	8	....	
Walnut street	....	"	3	....	
Warwick street	....	"	7	....	
Water street	....	"	12	....	
Webster street	....	"	5	....	
Wellington street	....	"	8	....	
Westford avenue	....	"	16	....	
Wilbraham avenue	....	"	7	....	
Wilbraham road	....	"	22	....	
Jasper street	6	"	1,079	....	
Jefferson ave, North Main to North	6	"	792	....	
Johnson st., completion to Pear	6	"	52	....	
King street, Wilbraham avenue to Westford	6	"	523	....	
Main street, at Hampden (from 12", for fire reservoir) (22 feet of low service, hitherto recorded as "Hampden st., west from Main")	6	"	....	....	
Maple street, State to Central	6	"	....	2,138	
Marengo avenue	6	"	1,350	....	
Margaret street, west from Water	6	"	531	....	
Massasoit street, extension to Lexington avenue	6	"	....	900	

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WATER PIPE LAID, ETC., IN 1897—CONTINUED.

LOCATION.	Size in Inches.	Material.	Length in Feet.		
			High Service.	Low Service.	Totals.
Melrose street, Eastern avenue to Cottage (separation from Cottage avenue—740 feet of high service)	6	Cast-iron.	....	....	
Middlesex street, extension	6	"	306	....	
Milton st., I. O., south from Main	6	"	694	....	
National avenue, south from Sumner	6	"	388	....	
Newland st., west from Plainfield	6	"	...	42	
Norfolk street, extension	6	"	84	....	
Northampton avenue, extension to south side of Gunn square	6	"	402	....	
Oak street, I. O., west and north from Parker	6	"	2,328	....	
Oak st., I. O., Main to Hampshire	6	"	1,336	....	
Orchard street, extension	6	"	....	205	
Park street, at Maple	6	"	....	30	
Parker street, extension to Oak street, I. O.	6	"	2,502	....	
Pasco st., I. O., south from Essex	6	"	405	....	
Pear street, south from Johnson	6	"	219	....	
Pearl street, Chestnut to Spring	6	"	....	992	
Pomona avenue, Sumner to Granada terrace, north	6	"	612	....	
Railroad row, west from Main st.	6	"	...	171	
Sorrento ave., north from Sumner	6	"	259	....	
Thomas street	6	"	....	632	
Union street, at Maple, west	6	"	...	7	
Ventura avenue	6	"	930	....	
Walker avenue, north from Liberty (to 1")	6	"	651	....	
Warwick street (name changed from "Cycle street") (P)	6	"	....	....	
Warwick street, completion to Armory	6	"	867	..	
Webster st., Liberty to Franklin	6	"	608	....	
Wellington street, south from Wilbraham road	6	"	691	....	
Westford avenue, Wilbraham road to King street	6	"	2,160	....	
Willard avenue, extension south to near State street	6	"	364	....	
Worcester street, I. O., completion to Oak, west	6	"	46	..	
Worthington, east from Chestnut	6	"	...	35	35,010
Alden street, Wilbraham avenue to Hickory street	8	"	421	....	
Belmont ave., south from Sumner	8	"	25	.	
Carew street, North to Chestnut	8	"	....	773	
Essex street, I. O., Myrtle to Pine (plus 218 feet hitherto wrongly included in "Myrtle street, Berkshire to Essex,"—account 1888)	8	"	...	....	
Liberty street, Carew to Cleveland	8	"	722	....	
Plainfield street, Orchard to Clayton (completion to 8" south from Abbe avenue)	8	"	....	1,850	
Walnut street, Cedar to Hancock (account error in total reported and printed in 1875, when laid)	8	"	200	....	
Water street, Loring to Margaret	8	"	404	....	
Wilbraham avenue, extension to King street	8	"	350	....	

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WATER PIPE LAID, ETC., IN 1897—CONTINUED.

LOCATION.	Size in Inches.	Material.	Length in Feet. High Service.	Low Service.	Totals.
Wilbraham avenue, north from Alden street	8	Cast-iron.	27	....	
Wilbraham road, from 12" to opp. House of Good Shepherd	8	"	1,631	....	6,403
Hampden street, at Main	12	"	....	28	28
Carew street, at North, east	16	"	....	5	5
Total cast iron laid by city			32,955	9,878	42,833
Total wrought-iron laid by city (forward)			1,574	142	1,716
Total wrought-iron laid by private parties (forward)			353	....	353
Total amount added, 1897			34,882	10,020	44,902
Pipe Taken Out or Abandoned.					
Chapel street, east from Eastern avenue (P)	1	Wrought-iron.	234	....	
Webster street, north from Liberty (P) (262 feet of high service sold to city)	1	"	....	....	234
Benton street, south from 4"	1¼	"	432	....	
Jefferson avenue, east from North Main street (abandoned in 1892, per S. R.—7,070)	1¼	"	....	225	657
High street, Maple to School	3	Cement-lined.	....	781	
Mulberry street, Maple to School	3	"	....	642	
School street, High to Union	3	"	....	376	
Union street, Maple to School	3	"	....	692	
Webster ave. at Pearl st., north	3	"	....	6	2,497
Avon place, at Maple	4	"	....	57	
Cycle street (name changed to "Warwick street") (P)	4	Cast-iron.	....	....	
Pearl street, Chestnut to Spring	4	Cement lined.	....	964	1,021
Central street, at Maple, west	6	"	....	22	
Chestnut street, East Taylor to Worthington	6	"	....	333	
Cycle street (name changed to "Warwick street") (P)	6	Cast-iron.	....	....	
Hampden street, west from Main (22 feet of low service, to be recorded as "Main street, at Hampden) (from 12", for fire reservoir)"	6	Cement-lined.	....	....	
Maple street, State to opposite No. 143	6	"	....	1,816	
Park street, at Maple	6	"	....	30	
Worthington street, east from Chestnut	6	"	....	35	2,236
Carew street, near Main to near Chestnut	8	"	....	1,512	
Maple street, No. 143 to Central street	8	"	....	249	
Myrtle street, I. O., Berkshire to Essex (less 218 feet hitherto wrongly included in total of 845 feet, but actually belonging to "Essex street, Myrtle to Pine,"—account 1888)	8	Cast-iron.	....	....	1,761
Hampden street, at Main	12	Cement-lined.	....	28	28
Total amount taken out or abandoned, 1897			666	7,768	8,434
Net addition to tables, 1897			34,216	2,252	36,468

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MAIN AND DISTRIBUTION PIPE

IN USE DECEMBER 1, 1897.

[*Pipe Belonging to Private Parties Marked* (*P*).]

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement Lined. or Wrought-Iron. High Service	Cement Lined. or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals. in Feet.
Abbe ave , west from Plainfield st	6	....	....	....	760	
do. Plainfield st. to Fisk ave.	6	...	....	....	719	1,479
Acushnet ave., east from Main st	6	....	....	...	1,080	1,080
Adams st., Main to Ashmun	8	....	....	....	1,038	1,038
Alden st., Hancock to Wilbraham ave.	6	....	....	2,253	...	
do. Wilbraham ave. to Hickory st.	8	....	....	421	....	
do. at Hickory	4	....	...	4	...	2,678
Alert st., north from Worthington	1	....	260	....		260
Alexander st	6	...	....	...	762	762
Allen ave., north from Allen st (P)	2	22	....	...	..	22
Allen st., Mill to White	8	....	....	930	....	
do. White to Plumtree road	6	....	...	4,487	....	5,417
Allendale st	6	....	....	....	707	707
Amherst st	6	....	....	1,339	....	1,339
Andrew st., north from Boston road	4	....	....	1,405	....	1,405
Arbor st., Carew to Butler	6	....	....	....	457	457
Arch st., North Main to east line of Conn. River R. R. location	6	....	...	....	985	985
do. west from North Main	6	....	....	51	....	51
Armory st., Federal to Worthington	4	....	....	936	....	
do. north from Worthington	8	....	....	702	....	
do. 8" to near Summer st	1	81	....	....	....	
do. north from 8" (for S. R-10,661)	2	92	....	....	....	
do. Summer to Van Horn reservoir	8	....	....	5,571	....	
do. Van Horn reservoir to Springfield st	12	....	....	2,581	....	9,966
Ashley st., Cedar to Hancock	6	....	....	1,427	....	1,427
Ashmun st., Central to Adams	8	....	....	....	269	269
Atwater terrace, extension from Rimmon avenue	6	....	....	504	....	504
Auburn st	6	....	...	....	887	887
do. west from Main	6	...	....	90	....	90
Avon place	4	....	....	715	....	715
do. at Maple st	6	....	....	...	57	
do. east from Maple	4	...	380	....	....	
do. east from cement-lined	4	...	....	....	416	853
Bancroft st., North Main to North	6	....	....	....	911	
do. North to Chestnut	6	....	....	....	600	
do. at Chestnut	8	....	....	....	4	1,515
do. east from North Main	6	....	..	21	....	21
Banks ave , west from Water st. (P) (S. R.-5,495)	1¼	....	193	....	....	193
Bay st., St. James ave. to Thompson st.	8	1,275	....	....	...	
do. Thompson to Oak Grove cemetery	8	....	....	3,793	....	5,068

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Totals in Feet
Beacon st., Eastern ave. to Colton st.	6	....	....	374	....	
do. east from Colton	2	129	....	....	....	503
Beaudry st., I. O., south from Main	6	....	....	498	....	
do. south from 6" (P) (S. R.-10,768)	1	60	....	....	....	558
Beaumont st., north from Belmont ave.	6	....	....	688	....	688
Beech st.	6	....	....	560	....	560
Beechwood ave., Sumner to Spruceland	6	....	....	565	....	565
Bellevue avenue	8	....	....	1,728	....	1,728
Belmont ave., Fort Pleasant ave. to beyond Beaumont st.	8	....	....	4,445	....	
do. at Sumner, northwest	8	....	....	17	....	
do. Sumner to Forest	8	....	....	42	....	4,504
Benton ave., east from Benton st.	6	....	....	15	....	15
Benton st., State to 6"	4	....	....	1,175	....	
do. 4" to Wilbraham road	6	....	....	418	....	1,593
Berendo ave	6	....	....	389	....	389
Berkeley st.	6	....	....	493	....	493
Berkshire st., I. O., west from Myrtle (see Ludlow reservoir)	24	....	....	....	....	
do. Myrtle to Oak	6	....	....	703	....	703
Beverly st.	6	....	....	252	....	252
Birnie ave., Grace st. to Walter	2	....	283	....	....	
do. south from Walter st.	6	....	....	....	168	
do. north from Thomas st.	6	....	....	....	302	753
do. Wason to Grace st.	8	....	....	726	....	
do. south from Grace st.	8	....	....	12	....	
do. Alfred st to Douglass	6	....	....	281	....	
do. south from Douglass st.	6	....	....	176	....	1,195
Bliss st., Main to Water	6	....	....	....	995	
do. at Water (west)	6	....	....	....	40	
do. west from Water	2	....	361	....	....	1,396
Bond place, south from Bridge st (P) (S. R., 6,033)	1¼	....	144	....	....	144
do.	6	....	....	191	....	191
Bond st., Main to Chestnut	6	....	....	....	1,673	1,673
do. east from Main	6	....	....	18	....	
do. east from 6"	4	....	....	183	....	201
Boston & Albany R. R. line of	8	....	....	....	1,225	1,225
Boston ave., south from Boston road (P) (S. R.-8,171)	1¼	172	....	....	....	172
Boston road (see Ludlow reservoir)	24	....	....	....	....	
do. Jasper st. to Coleman	6	....	....	217	....	217
Bowdoin st., St. James ave. to Worthington st	4	....	....	1,202	....	
do. north from Worthington	6	....	....	833	....	2,035
Bowles st., Catherine to McKnight	2	700	....	....	....	
do. McKnight to Bay	4	....	....	811	....	1,511
Boylston st.	6	....	....	....	934	934
Brace st.	6	....	....	360	....	360
Bradford st., North Main to Fulton	6	....	....	....	1,011	1,011
do. west from North Main.	6	....	....	67	....	67
Bridge st., Water to Main	6	....	....	....	772	
do. Main to Chestnut	6	....	....	....	1,149	1,921
do. Main to Water	6	....	....	873	....	
do. east from Main	6	....	....	211	....	
do. east from Dwight	6	....	....	135	....	1,219
Brightwood ave., west from Plainfield st	6	....	....	....	176	176

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Broad st., west from Main	8	....	1,001	....	....	
do. east from Hanover	4	....	....	....	52	1,053
Brown st., Bay to Yale	6	....	....	564	....	564
Buckingham st., north from State	6	670	....	....	....	
do. south from Bay	6	....	....	600	....	
do. Bay to Clarendon	4	....	....	806	....	2,076
Buckingham place	1½	338	....	....	....	338
Burr st., east from Andrew	4	....	....	695	....	695
Butler st., Chestnut to Arbor	6	....	....	....	975	
do. east from Arbor	6	....	....	....	194	
do. east from 6" (P)	4	....	....	....	33	
do. east from private 4"	4	....	....	....	313	1,515
Butler st., crossing to Everett (proposed st.)	4	....	....	....	197	197
Byers st.	6	1,452	....	....	....	1,452
Calhoun st., North Main to North	6	....	....	....	750	
do. east from North	6	....	....	....	365	1,115
do. east from North Main	6	....	....	16	....	16
Cambridge st.	6	....	....	1,601	....	1,601
Carew st., Main to North	16	....	875	....	....	
do. at North, east	16	....	....	....	5	
do. North to Chestnut	8	....	....	....	799	
do. east from Chestnut	6	....	....	....	33	
do. east from 6"	3	....	....	....	4	
do. near Chestnut to Massasoit	3	....	553	....	....	
do. east from Massasoit	6	....	....	....	350	2,619
do. east from Main	8	....	....	19	....	
do. Main to Chestnut (see Ludlow reservoir, "Main No. 2")	20	....	....	—	....	
do. east from Chestnut (see Ludlow reservoir "Main No. 2")	24	....	....	—	....	
do. west from Armory (P) (S.R. 4869)	1½	559	....	....	....	
do. east from Armory	6	....	....	11	....	589
Carew place, north from Carew st.	4	....	....	....	166	166
Carlisle st., south from Wilbraham road	6	....	....	53	....	53
Cass st., Linden to Everett	4	....	....	....	359	359
do. Liberty to Franklin	6	....	....	596	....	596
Catherine st., State to Bay	12	....	....	1,771	....	
do. Bay to Dartmouth	12	....	....	190	....	1,961
Cedar st., Walnut to Pine	16	1,254	....	....	....	
do. west from Pine	2	332	....	....	....	1,586
Cedar st., I. O.	4	374	....	....	....	374
Center st., I. O., east from Oak	2	359	....	....	....	
do. west from Cedar	2	360	....	....	....	
do. west from 2"	1½	52	....	....	....	771
Central st., east from Main	4	....	....	....	482	
do. 4" to Maple	6	....	937	....	....	
do. at Maple, west	6	....	....	....	22	1,441
do. Maple to Mill	8	....	....	4,035	....	4,035
Central st. av., Central st. to Foster court	6	....	....	292	....	292
Chapel st., east from Eastern ave.	6	....	....	365	....	365
Chapin pond, at pumping station	8	....	....	163	....	
do. do.	12	....	....	299	....	462
Chapin st. (including Marion st. extension)	6	....	....	1,239	....	1,239
Charles st., south from Franklin	3	....	287	....	....	
do. north from Liberty	4	....	324	....	....	611
do. south from Liberty	4	....	....	204	....	204

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MAIN AND DISTRIBUTION PIPE.—Continued.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Charter ave	2	370	....	....	....	370
Cherry st., south from Central	6	....	....	1,130	....	1,130
Chester st., south from Central (P) (S. R.-6,931)	2	246	....	....	....	
do. south from 2" (P) (S. R.-6,931)	1¼	39	....	....	....	285
Chestnut st., brook to Jefferson ave	20	....	1,715	....	....	
do. at Jefferson ave. (north)	20	....	....	....	10	
do. Jefferson ave. to Franklin	12	....	....	....	3,325	
do. Franklin to East Taylor	8	....	....	....	1,540	
do. East Taylor to Worthington	6	....	....	....	335	
do. Worthington to Pearl	6	....	....	....	461	
do. south from Pearl	3	....	775	....	....	
do. north from State	4	....	625	....	....	8,786
do. Eagle to Springfield	8	....	....	613	....	
do. north from Carew	12	....	....	20	....	
do. Carew to 12" near Worthington, north	16	....	....	3,185	....	
do. 16" to Worthington	12	....	....	63	....	
do. Worthington to Harrison ave	12	....	....	873	....	
do. Harrison ave. to 6"	8	....	....	644	....	
do. 8" to State st	6	....	....	360	....	5,758
Chestnut st., I. O., Hampden to Worcester	4	369	....	....	....	369
Chicopee Falls road, Ludlow, west from 30" main	2	1,219	....	....	....	1,219
Church st., North Main to North	6	....	....	....	898	898
do. east from North Main	6	....	....	19	....	19
Churchill st	6	....	....	675	....	675
City Hall ave	4	....	....	131	....	131
Clarendon st., Bay to St. James ave	6	....	....	1,068	....	
do. north from Worthington (for hydrant)	6	....	....	12	....	
do. north from Worthington	2	233	....	....	....	1,313
Cleveland st	6	....	....	1,105	....	1,105
Clifford st	4	....	....	505	....	505
Clifton ave., south from Central st	4	....	....	504	....	504
Cliftwood ave	6	....	....	449	....	449
Clinton st., Main to Fulton	6	....	....	....	796	796
Coleman st., south from Boston road	6	....	....	388	....	388
College ave., State st. to Shattuck	6	....	....	833	....	
do. north from Shattuck	6	....	....	168	....	1,001
College st., State to Wilbraham road	8	....	....	567	....	567
Collins st., east from Eastern ave	6	....	....	539	....	539
Colton st., Wilbraham road to Beacon st.	6	....	....	1,680	....	1,680
Concord st., south from Rimmon ave	2	295	....	....	....	295
Concord terrace, north from Wilbraham road	2	202	....	....	....	202
Congress st., Main to near Chestnut	6	....	....	....	1,533	
do. west from Chestnut	4	....	....	....	60	1,593
Conn. River R. R., east line of location to east line of Plainfield st. (under tracks, connecting Arch and Washburn sts)	6	....	....	....	226	226
Continental ave., south from Sumner	6	....	....	390	....	390
Cook's ave., Bridge st. to North Church ave	4	....	....	....	126	126
Cornell place, north from Cornell st	1¼	106	....	....	....	106

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement Lined or Wrought-Iron. High Service	Cement Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Cornell st.	6	....	...	1,829	....	1,829
Cortland st., State to Shattuck	6	....	....	797	....	797
Cottage ave., east from Walnut st. (P) (S. R.-7,681-8,916)	1¼	169	....	....	....	
do. Walnut street to Melrose	6	....	....	296	....	
do. north and east from Melrose st.	6	....	....	492	....	957
Court st., Main to Water	6	....	....	....	1,060	
do. at Water	8	....	....	....	4	1,064
do. west from Main	8	....	....	294	....	294
Crescent st., north from Springfield	6	....	..	252	....	252
Cross st., west from Willow	1¼	....	142	....	....	
do. at Willow, east	6	....	....	12	....	
do. 6" to Maple st	4	....	....	605	....	759
Cypress ave., at Cypress st.	4	....	....	....	9	
do. north from Cypress st.	3	....	210	....	....	219
Cypress st., Main to Fulton	6	...	....	..	720	720
do. Main to Fulton	8	....	....	676	....	676
Dale st., Union to William	6	....	....	....	400	
do. William to Winthrop	4	....	....	..	249	649
Dartmouth st., Bay to St. James ave.	12	...	....	1,036	....	1,036
Dartmouth terrace, west from St. James ave.	6	...	....	479	....	479
Dawes st.	6	....	....	1,250	....	1,250
Demond ave.	6	....	....	....	922	922
do. at Fisk ave.	6	....	....	2	....	2
Dexter st., George to Knox (P) (S. R. 5,322)	2	719	....	....	....	719
Dickinson st., Oakland to Johnson	6	....	....	163	....	
do. north from Sumner ave.	6	....	....	591	....	754
Dorchester st.	6	....	....	620	....	620
Douglas st., North Main to Birnie ave.	6	....	....	582	....	582
Dresden ave.	6	....	....	805	....	805
Dwight st., State to Bridge	6	....	....	....	1 565	
do. Bridge to Worthington	6	....	....	....	286	
do. crossing sewer at Worthington	6	....	...	...	45	
do. south from Lyman	6	....	....	....	49	1,945
do. State to Lyman (less 8" crossing Worthington st)	10	....	....	2,322	....	
do. crossing sewer at Worthington	8	....	....	28	....	2,350
Dymon st.	2	475	....	....	....	475
Eagle st., at North Main, west	5	....	....	13	....	
do. North Main to Chestnut	6	....	....	596	....	609
East Court st.	4	....	....	584	....	584
Eastern ave., in State st., at 24" main	8	....	....	18	....	
do. from gate at State st. 24" main to Tyler street	12	....	....	1,568	....	
do. Tyler street to Pendleton ave.	12	350	....	....	....	
do. Pendleton ave. to Manhattan st.	8	....	....	1,873	....	
do. north from Melrose st.	8	....	....	225	....	4,034
East Hooker st., east from North Main	6	....	....	....	361	361
do. do.	4	....	....	14	....	14
Edwards st.	4	....	...	...	737	737
Elliott st.	4	....	913	....	....	913
Elm st., Main to near Water	6	....	....	....	965	
do. east from Water	8	....	....	...	15	
do. west from Water (P) (S. R.-5,748)	1¼	....	395	....	....	1,375
do. west from Main	8	.. .	....	306	....	306

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement Lined or Wrought-Iron. High Service	Cement Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Elmwood st., west from Main	6	....	....	....	810	810
Emery st.	6	....	....		724	724
do.	8	....	....	716	....	716
Essex st., Main to near Chestnut	6	....	1,625	....	....	
do. west from Chestnut	6	....	....	....	25	1,650
do. east from Main	6	....	....	14	....	14
Essex st., I. O., Myrtle to Pine	8	....	....	1,440	....	1,440
Euclid ave.	6	....	....	1,163	....	1,163
Everett st., east from Chestnut	6	....	....	....	46	
do. east from 6"	4	....	1,204	....	....	
do. west from Cass	4	....	....	....	50	
do. east from Cass	4	....	....	....	302	1,602
Fairbanks ave., from Worthington st.	3	....	329	....	....	329
Fairfield st., north from Garfield	6	....	....	934	....	934
Federal st., State to Armory	16	....	....	998	....	
do. Armory to Summer	8	....	....	1,500	....	2,498
Ferry street, east from Main	6	....	....	....	30	
do. east from 6"	4	....	459	....	....	
do. west from Chestnut	6	....	....	....	1,083	1,572
Firglade ave., south from Sumner	6	....	....	833	....	833
Fisk ave. south from Wason	8	....	1,493	....	....	1,493
do. south from Wason	12	....	....	736	....	
do. south from 12" Grace st. line	8	....	....	205	....	941
Florence st., Pine to Hancock	6	1,615	....	....	....	
do. east from Hancock	2	263	....	....	....	
do. west from Walnut	1	88	....	....	....	1,966
Florida street, north from Bay	6	1,520	....	....	....	
do. south from Worthington	6	....	....	14	....	
do. north from Worthington	6	....	....	850	....	2,384
Forest ave., south from Belmont	6	....	....	587	....	587
Forest park, from Sumner ave. (P) (S. R.-9,099)	6	....	....	2,610	....	
do. for hydrants (P) (S. R.-9,099)	4	....	....	30	....	2,640
Forest st., Belmont ave. to Park ave.	6	....	....	843	....	843
Fort st., Main to Water	6	....	....	....	715	715
do. west from Main (P) (S. R.-6,490)	4	....	....	76	....	76
Fort Pleasant ave. south from Mill st.	12	....	....	167	....	
do. south from Belmont ave.	8	....	....	287	....	
do. south from 8"	1½	94	....	....	....	
do. north from Sumner ave.	6	....	....	1,176	....	1,724
Foster court	6	....	....	762	....	762
Franklin st., Main to Chestnut	6	....	....	....	1,610	
do. east from Chestnut	6	....	....	....	219	
do. east from Charles	1½	....	131	....	....	1,960
do. Main to Chestnut	8	....	....	1,583	....	
do. east from Cass (P) (S. R.-6,651)	1½	128	....	....	....	
do. east from Webster st	6	....	....	83	....	
do. near Webster st., east (connecting 6" and 2")	1	4	....	....	....	
do. 6" to Liberty st.	2	1,340	....	....	....	3,138
Fremont st., Main to Water	6	....	....	....	831	831
Fulton st., Cypress to Plainfield	6	....	....	....	3,530	
do. Plainfield to brow of Round Hill	6	....	....	....	456	3,986
Gardner st., Main to Water	12	....	500	....	....	
do. west from Water	12	....	84	....	....	
do. west from 12"	8	....	399	....	....	
do. west from 8"	6	....	150	....	....	
do. east from Hanover	4	....	....	....	42	1,175

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MAIN AND DISTRIBUTION PIPE.—Continued.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Gardner st., Gardner av. to Hanover st.	8	....	....	189	....	189
Gardner ave	8	....	....	329	....	329
Garfield st	6	....	....	1,544	....	1,544
George st., south from Pine (P) (S. R. 4,979)	2	354	....	....	....	
do. north from Maple	2	170	....	....	....	524
Girard ave., Bay st. to McKnight	6	....	....	975	....	975
Gladwood ave	6	....	....	492	....	492
Grace street, North Main to Birnie ave.	4	....	509	....	....	509
do. North Main to Birnie ave.	12	....	....	690	....	
do. Birnie ave., crossing to Fisk ave.	12	....	....	390	....	1,080
Granada terrace	6	....	....	1,189	....	1,189
Grant st	4	....	....	600	....	600
Granville st., Eastern ave. to Logan st.	6	....	....	497	....	497
Gray's ave., north from Cypress	6	....	....	....	358	
do. north from 6"	4	....	221	....	....	
do. south from Emery st	6	....	....	....	14	593
Greene st., Hancock to Eastern ave	6	....	....	1,363	....	1,363
Greene st. ave., north from Greene st.	2	200	....	....	....	200
Greenleaf st	6	....	....	666	....	666
Greenwood street, east from Main	6	....	....	....	1,271	
do. west from Chestnut	4	....	....	....	337	1,608
Grosvenor st., north to Chestnut	6	....	....	....	773	773
Grove st., west from East Hooker	6	....	....	....	388	388
do. at North Main (east and west)	6	....	....	32	....	32
Grover st., west from Liberty	6	....	....	54	....	54
Guns square, south side, east from Northampton ave	1¼	142	....	....	....	142
Hall st., Belmont ave. to Dickinson st.	6	....	....	997	....	997
Hampden st., at Main	12	....	....	....	28	
do. cast-iron to Water st	12	....	672	....	....	700
do. Main to Water	8	....	....	660	....	660
Hampden st., I. O., Chestnut to Myrtle	4	750	....	....	....	
do. Myrtle to 6"	4	....	....	692	....	
do. 4" to Oak st	6	....	....	35	....	1,447
Hampshire street, I. O.	4	....	....	1,829	....	1,829
Hancock ave	6	....	....	636	....	636
Hancock st., State to Lebanon	16	2,400	....	....	....	
do. Lebanon to Walnut	12	....	....	930	....	
do. Florence to Hancock ave	6	....	....	576	....	
do. Hancock ave. to Central st	6	....	....	550	....	
do. at Central (south)	8	....	....	3	....	
do. south from Central	4	....	....	225	....	
do. south from 4"	6	....	....	412	....	5,096
Hanover st., Gardner to Broad	4	....	....	....	518	518
do. Gardner to York	8	....	....	789	....	789
Harrison ave., Main st. to Dwight	6	....	....	....	649	649
do. Main st. to Chestnut	12	....	....	895	....	
do. at Main st	6	....	....	25	....	
do. west from Dwight	6	....	....	173	....	1,093
Harvard st., Yale to St. James ave	6	....	....	947	....	
do. St. James ave. to Cornell st	6	....	....	716	....	1,663
Hawley st	6	515	....	....	....	515
Hawthorn place, Sumner ave. to Park ave	6	....	....	845	....	845
Hawthorn st., Spruce to Hancock	4	....	....	568	....	568
Hayden st	4	....	....	1,095	....	1,095

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Hebron st., North to Chestnut	6	....	....	....	746	746
Heywood ave., south from Liberty st. (P) (S. R.-6,720)	6	....	....	257	....	257
Hickory st., east from Central	2	488	....	....	....	
do. east from Walnut st. main	6	125	....	....	....	
do. from east line of Walnut to Alden (including crossing private land to a point 154 feet west of cor. Alden and Hickory sts.)	4	....	....	2,612	....	
do. Alden to Woodbine ave	4	....	....	550	....	
do. east from Woodbine ave	3	810	....	....	....	
do. east from 3"	1½	146	....	....	....	4,732
High st., Maple to School	6		....	807	....	
do. School to Walnut	6	1,854	....	....	....	2,661
Highland st., Allen to Orange	6	....	....	1,537	....	1,537
Hillman st	8	....	....	692	....	692
Hillside place, east from Richelieu st. (P) (S. R.-8,946)	2	....	120	....	....	120
Holyoke st	6	....	....	....	874	874
do. west from Main	6	....	....	86	....	86
Homer st	6	....	....	644	....	644
Hooker st., west from North Main	6	....	....	14	....	14
Howard place, south from Howard st.	4	....	....	....	160	160
Howard st., Main to Water	6	....		....	994	
do. west from Water	2	....	420	....	....	
do. west from Water	6	....	362	....	....	1,776
do. west from Water	6	....	....	42	....	
do. near Water (west) to railroad (P)	4	....	....	304	....	346
Howard st., Ludlow, east from North (P) (S. R.-5,629)	1½	441	....	....	....	441
Hubbard ave., Main to Dale	6	....	....	....	621	621
Hyde ave., east from Plainfield st.	6	....	....	....	17	17
do. at Fisk ave	4	....	....	7	....	
do. west from 4"	6		....	930	....	937
Hydrants, sundry streets	4	....	970	....	1,522	
do. sundry streets	6	....	....	....	290	2 782
do. sundry streets	4	....	....	3,634	....	
do. sundry streets	6	....	....	2,666	....	
do. sundry streets	8	....	....	169	....	6,469
Indian Orchard road (see Ludlow reservoir)	24	—	....	....	....	
Ingersoll grove, Worthington st. to Bowdoin	6	....	....	1,433	....	1,433
James St	4	....	....	959	....	959
Jasper st	6	....	....	1,079	....	1,079
Jefferson ave., at North Main st.	8	....	....	....	10	
do. 8" to North st	12	....	....	....	876	
do. North st. to Chestnut	16	....	482	....	....	1,358
do. at North Main st	12	....	....	15	....	
do. 12" to North st	6	....	....	792	....	807
John st., east from Fulton	6	....	....	....	419	
do. west from Plainfield	4	....	....	....	259	678
Johnson st	6	....	....	1,930	....	1,930
Keith st	6	....	....	1,102	....	1,102
Kenwood ave., south from Bellevue	6	....	....	23	....	23
Kenwood park	6	....	....	778	....	778

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MAIN AND DISTRIBUTION PIPE.—Continued.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Totals in Feet.
Kibbe ave., south from Summer st.	6	....	....	....	38	
do. north from Worthington st.	6	....	202	....	....	240
do.	8	....	....	240	....	240
King st., Walnut to Hancock	4	....	....	995	....	
do. Hancock to Eastern ave.	6	....	....	1,365	....	
do. east from Eastern ave.	6	....	....	455	....	
do. Wilbraham ave. to Westford	6	....	....	523	....	3,338
King st. ave., King st. to Lebanon	2	367	....	....	....	
do. at Lebanon st.	1	7	....	....	....	374
Knox st., Mill to Dexter (P) (S. R.-5,464)	2	674	....	....	....	674
Ladd st.	6	....	....	513	....	513
Lafayette st.	6	....	....	620	....	620
Laurel ave., west from Plainfield st.	6	....	....	....	674	674
La Verne ave., south from Bellevue	6	....	....	26	....	26
Lebanon place, south from King st. (P) (S. R.-5,016)	1½	336	....	....	....	336
Lebanon st., Walnut to Hancock	16	630	....	....	....	
do. Hancock to Eastern ave.	6	....	....	1,377	....	2,007
Lenox st.	6	....	....	447	....	447
Lexington ave.	6	....	....	....	666	
do. (north side) east from Chestnut st. (P) (S. R.-4,548)	2	....	323	....	....	
do. (south side) east from Chestnut st. (P) (S. R.-4,880)	2	....	195	....	....	1,184
Liberty st., east from Main	6	....	....	....	1,195	
do. 6" to Chestnut st.	4	....	....	....	276	
do. east from Chestnut	6	....	1,800	....	....	3,271
do. Main to Chestnut	6	....	....	1,424	....	
do. west from Chestnut (P) (S. R.-4,909)	2	212	....	....	....	
do. Chestnut to Heywood ave.	6	....	....	2,613	....	
do. Heywood ave. to Armory st.	8	....	....	1,950	....	
do. east from Armory	6	....	....	24	....	
do. Cleveland to Carew	8	....	....	732	....	5,945
Lillian st., Oak to Orleans	4	....	....	440	....	440
Lincoln st.	6	....	....	804	....	804
Linden st., east from Chestnut	6	....	....	....	34	
do. east from cast iron	4	....	1,266	....	....	
do. west from Cass	4	....	....	....	16	1,316
Litchfield st., Belmont av. to Garfield st.	6	....	....	421	....	421
Locust st., Main to near Mill	12	732	....	....	....	
do. north from Mill	12	....	....	25	....	757
Logan street, at Olive (for flush gate)	6	....	....	10	....	10
Lombard Reservoir,—to Armory st.	6	....	2,137	....	....	2,137
Lombard st.	4	....	....	....	658	658
Long Hill st., South st. to near Spruceland ave.	8	....	....	2,500	....	
do. 8" to Spruceland ave.	6	....	....	45	....	
do. from 8" to opposite E. H. Barney's house	2	1,798	....	....	....	4,343
Loring st., at Water	8	....	....	....	9	
do. east from Water	6	....	....	....	678	687
do. Main to Water	8	....	....	789	....	789
Lowell st.	6	....	....	....	1,372	1,372

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Ludlow Reservoir, as follows:						
Supply Main No. 1.						
Gatehouse to Higher brook	24	....	....	3,736	....	
Higher brook to Federal st. (less 215 feet *cast-iron* under tracks of B. & A. R. R., as below)	24	52,460	....	....	....	
Federal to Spring, 1,773 feet (see State st.)	16	—	....	....	....	
Spring to Main, 2,026 feet (see State st.)	16	....	...	—	...	
Under Athol branch tracks of B. & A. R. R.	24	....	....	135	...	
Under main tracks of B. & A. R. R.	24	....	....	80	....	56,411
Supply Main No. 2.						
Gatehouse, through dam	30	....	....	120	....	
Dam to intersection of Main No. 1	36	....	....	13,388	....	
Intersection of Main No. 1 to 24" (in Carew street.)	30	....	....	39,899	....	
30" (in Carew st) to Chestnut st.	24	....	....	2,380	....	
Chestnut st. (in Carew st.) to Main st.	20	....	....	1,670	....	57,457
At Reservoir.						
Distributing canal to cut-off basin.	36	....	....	36	....	
Under cut-off dam	36	....	....	132	....	
At Cherry Valley drain gate	20	....	...	36	...	204
Lyman st., Main to Chestnut	8	....	....	....	1,369	
do. east from Chestnut	8	....	....	....	230	
do. east from 8" cast-iron	6	....	112	....	..	
do. west from Spring	6	....	....	...	436	2,147
do. Main to Dwight	6	....	....	850	....	
do. Dwight to Chestnut	8	....	....	475	....	
do. Chestnut to Spring	6	....	....	768	....	2,093
Madison ave., north from Central st.	6	....	....	556	....	556
Magazine st., Grant to Armory	4	....	....	638	....	638
Magnolia terrace, so. from Sumner ave.	6	....	....	909	....	909
Main st., Carew to Liberty (south)	16	....	2,415	....	....	
do. Liberty (south) to Lyman (north)	16	....	....	....	318	
do. Lyman (north) to Hampden	16	....	242	....	....	
do. Hampden to Central	12	....	....	...	4,340	
do. Central to Locust	12	....	2,018	....	....	
do. Locust to Mill	6	....	830	....	....	
do. at Hampden (from 12", for fire reservoir)	6	....	....	...	22	10,185
do. Carew to State	16	....	....	5,210	....	
do. State to Locust	12	....	....	4,143	....	
do. Mill to Mill river	12	....	....	310	....	
do. at Carew (between high and low)	6	....	....	25	....	
do. at Bridge (between high and low services, and sewer man hole)	6	....	....	24	....	9,712
Main st., L. O., west from Myrtle	8	....	....	510	....	
do. Myrtle to beyond Cedar (see Ludlow reservoir)	24	—	....	....	....	
do. at 24" main, east	8	....	....	24	....	
do. from 24" main to Wilbraham line	6	....	....	3,930	...	4 464
Main Supply Pipes—(see "Lombard reservoir", "Ludlow reservoir" and "Van Horn reservoir")						
Manhattan st., Walnut to Eastern ave.	6	....	....	1,120	....	1,120

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Maple ave., east from Maple st.	6	....	....	392	....	392
Mapledell st.	6	....	....	1,013	....	1,013
Maple st., State to Central	6	....	....	....	2,138	2,138
do. Stockbridge to Union	6	....	....	857	....	
do. Union to Central	8	....	....	1,285	....	
do. Central to Pine	6	1,753	....	....	....	
do. opposite No. 310 (connecting 6" and 4")	4	....	....	15	....	
do. opposite No. 310 to near Pine (east)	4	....	....	650	....	
do. near Pine (east) to Mill	4	756	....	....	....	5,266
Maplewood terrace	6	....	....	1,378	....	1,378
Marble st.	8	....	....	....	1,084	1,084
Marengo ave.	6	....	....	1,350	....	
do. south side of Marengo park	2	590	....	....	....	1,940
Margaret st., Main to Water	6	....	....	....	884	
do. west from Water	4	....	....	....	566	1,450
do. west from Water	6	....	....	531	....	531
Marion st., Bay to McKnight	6	....	....	889	....	889
Market st., State to Harrison ave.	6	....	....	....	1,058	1,058
do. State to Sanford	6	....	....	298	....	
do. south from East Court (P) (S. R. 4,262)	3	90	....	....	....	
do. south from Townsley ave.	4	....	....	95	....	483
Massasoit st., north from Carew	3	....	400	....	....	
do. 3" to Lexington ave.	6	....	....	....	1,188	
do. Lexington ave. to Montmorenci st.	6	....	....	....	330	
do. North from Montmorenci st. (P) (S. R.-6,519)	1½	....	158	....	....	2,076
do. at Carew (for hydrant)	6	....	....	50	....	50
Mattoon st., Chestnut to Elliott	4	....	625	....	....	625
do. West from Elliott	6	....	....	362	....	362
Maynard ave., south from Shattuck	6	....	....	612	....	612
McKnight st., Sherman to Bowles	4	....	....	507	....	
do. Bowles to Girard ave.	6	....	....	414	....	921
Mechanic st., west from Water	6	....	....	....	35	
do. west from 6"	2	....	353	....	....	388
Mechanics row	2	....	220	....	....	220
Melrose st., Eastern ave. to Cottage	6	....	....	740	....	740
Merrick ave., King st. to Lebanon	2	348	....	....	....	
do. at Lebanon st	1	24	....	....	....	372
Merwin st.	6	....	....	730	....	730
Middlesex st., south from Wilbraham road	6	....	....	354	....	354
Mill st., U. S. Watershops to Central	8	....	....	400	....	
do. Pine to Locust	16	1,157	....	....	....	
do. Locust to Main	12	....	....	581	....	2,138
Milton st., I. O., south from Main	6	....	....	694	....	
do. south from 6" (P) (S. R.-10,779 10,780)	1½	203	....	....	....	897
Monmouth st., Truxton to Yale	4	....	....	497	....	
do. Yale to Berkeley	6	....	....	479	....	976
Monroe st., east from Hancock	6	....	....	824	....	
do. from cast-iron to Hawley	6	154	....	....	....	
do. Hawley to Colton	6	....	....	730	....	1,708
Monson ave., north from Greene st.	2	199	....	....	....	199

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement Lined or Wrought-Iron. High Service	Cement Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Montmorenci st.	6	....	...	.	678	678
Montrose st., south from Burr	6	....	....	978	....	978
Moore ave., west from Plainfield st.	6	....	....	....	663	663
Morgan st., east from North Main	6	....	....	....	178	
do. east from 6"	4	...	....	....	63	
do. from 4" to near North st.	6	....	...	....	580	
do. west from North	4	....	....	....	75	896
do. east from North Main	6	...	....	21	....	21
Morris st., east from Main	6	....	....	....	784	
do. 6" to Central	8	....	....	....	326	1,110
Mulberry st., east from Maple (P) (S. R. 4,957)	2	445	....	....	....	
do. west from School (P) (S. R. 3,708)	1	220	...	....	....	
do. School to Union	6	1,380	....	....	....	2,045
Myrtle st	4	....	....	548	...	548
Myrtle st., I. O., Main to Berkshire (see Ludlow reservoir)	24		....	....	....	
do. Berkshire to Essex	8	....	....	627	....	627
National ave., south from Sumner	6	....	....	388	....	388
Nelson ave., King st. to Lebanon	2	358	...	....	....	
do. at Lebanon st. (north)	1	17	....	....	....	
do. Lebanon st. to Greene	2	411	....	....	....	786
New st., west from Dwight	2	....	180	....	....	180
Newland st., west from Plainfield	6	....	....	..	42	42
Noel ave., west from Highland st.	6	....	....	671	....	671
Norfolk st., south from Wilbraham road	6	....	....	1,284	....	1,284
North st., Carew to Jefferson ave	16	....	2,000	....	....	
do. north from Jefferson ave. (P) (S. R.-7,324)	2	....	208	....	....	
do. south from Calhoun	1¼	....	181	....	....	
do. Calhoun to Waverly	6	....	....	....	696	3,085
do. at Carew (for hydrant)	6	....	....	51	....	51
Northampton ave., Wilbraham road to south side of Gunn square	6	....	...	1,660	....	1,660
North Church ave.	4	....	....	...	400	400
North Main st., at Carew	8	....	...	....	16	
do. Carew to near Bancroft (north) (less cast iron opposite No. 138-140)	8	....	2,100	....	....	
do. opposite No. 138-140	8	....	....	....	21	
do. near Bancroft (north) to near Hooker (north)	8	....	....	....	1,316	
do. near Hooker (north) to Wason ave. (less cast-iron at Thomas st., crossing Burt's brook)	8	....	2,641	....	....	
do. at Thomas st. (crossing Burt's brook)	8	....	....	....	52	
do. north from Wason ave	8	....	....	....	28	6,174
do. Carew to Grace	16	....	....	5,415	...	
do. at proposed street of Birnie and Adams	8	....	....	24	....	
o. at proposed street, midway Adams' nursery (east)	6	....	....	20	....	
do. at proposed street, midway Adams' nursery (west)	4	....	...	14	....	
do. Grace to Chicopee line (P) (S. R.-7 948)	1¼	1 740	....		....	7,213

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MAIN AND DISTRIBUTION PIPE.—Continued.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Totals in Feet.
Norwood st.	6	....	....	....	1,016	1,016
Oak st.	6	1 450	....	....	...	1,450
Oak st., I. O., north from Main	4	....	....	362	....	
do. Main to Hampshire	6	....	....	1,336	....	
do. south from Hampshire	4	....	....	961	....	
do. west and north from Parker	6	...	....	2,328	....	
do. south from Main (for S. R.-10,003)	2	83	....	....	....	
do. south from Worcester (for S. R.-6,671)	1¼	150	....	....	....	5,220
Oak Grove ave., north from State st.	6	....	....	388	....	388
Oakland st., at Belmont ave.	8	....	....	21	....	
do. 8" to Orange street	6	....	....	1,872	....	1,893
Olive st.	6	....	....	515	....	515
Orange st., west from White	6	....	....	382	....	382
Orchard st.	6	....	....	....	1,210	1,210
Orleans court, west from Orleans st. (P) (S. R.-7,871-8,111)	1¼	182	....	....	....	182
Orleans st., State to Union	4	....	....	755	....	
do. Union to Pendleton ave.	6	....	....	858	....	1,613
Osgood st., east from North Main	4	....	925	....	....	
do. west from North	4	....	....	....	33	
do. at North	8	....	....	....	3	961
do. east from North Main	6	....	....	21	....	21
Oxford st., east from Fort Pleasant ave	6	....	....	26	....	26
Palmer ave., east from Locust st. (P) (S. R.-5,695)	2	850	....	....	....	850
Park ave., Fort Pleasant to Sumner	6	.. .	....	2,625	....	
do. south from Sumner	6	..	....	403	....	
do. south from 6"	1¼	66	....	....	....	3,094
Park st., east from Willow	3	....	....	....	224	
do. east from 3"	6	....	....	....	202	
do. 6" cast iron to Maple	6	....	314	....	....	
do. at Maple	6	....	....	....	30	770
Parker st., Main, I. O., to Oak, I. O.	6	....	.. .	3,677	....	
do. south from Oak, I. O.	4	....	....	920	....	4,597
Pasco st., I. O., south from Essex	6	....	....	405	....	405
Patton st., east from Main	4	....	....	....	810	
do. west from Chestnut	6	....	....	....	881	1,691
do. east from Main	6	....	....	16	....	16
Pear st., south from Johnson	6	....	....	219	....	219
Pearl st., Chestnut to Spring	6	...	....	....	992	992
do. Spring to Byers	6	....	....	296	....	
do. Byers to Federal	4	....	....	2,150	....	2,446
Pendleton ave., Walnut st. to Hancock	8	1,290	....	....	....	
do. Hancock st. to Eastern ave.	6	....	....	1,356	....	2,646
Pine st., Walnut to Cedar	6	....	....	1,679	....	
do. Cedar to Mill (less 24")	16	2,660	....	....	....	
do. south from Maple	24	114	....	....	. ..	4,453
Pine st., I. O., Main to beyond Chapman Valve Mfg. Co.	6	..	...	1,807	.. .	1,807
Pine st. court	2	365	....	....	.. .	365
Plainfield st., north from Bradford	6	....	....	....	17	
do. near Bradford to John	4	....	....	....	276	
do. John to Fulton	6	....	....	....	1,072	
do. Lowell to Washburn	6	....	....	....	278	
do. Washburn to Wason ave.	8	....	....	....	4,482	6,125

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Pleasant st., State to Bay	4	500	....	....		500
Plymouth st.	6	....	....	....	500	500
Pomona ave., Sumner to Granada terrace, north	6	....	....	612	....	612
Princeton st., Bay to Cornell	6	....	....	1,877	....	1,877
Prospect st., Chestnut to Massasoit	4	....	....	....	614	614
Pynchon st., at Water	8	....	....	....	15	
do. east from 8"	6	....	....	....	16	
do. east from 6"	3	....	....	....	800	
do. from 3" to Main st.	6	....	....	....	35	866
do. west from Main	8	....	....	355	....	355
Queen st., east from Walnut	4	....	....	420	....	
do. west from Hancock	6	....	....	356	....	776
Quincy st., Oak to Hancock	6	....	....	1,427	....	
do. west from Hancock st. main	8	....	....	11	....	
do. east from Hancock st main	8	....	....	8	....	
do. Hancock to Eastern ave	6	....	....	1,370	....	
do. east from Eastern ave	6	....	....	317	....	3,133
Railroad row, west from Main st	6	....	....	....	234	
do. east from Water st. to beyond 6" (no connection between 3" and 6")	3	....	562	....	....	796
Randall ave., north from Allen st.	4	....	....	212	....	212
Raymond ave., north from Carew st. (P) (S. R.-8,618)	2	158	....	....	...	158
Reed st., south from State (P) (S. R.-5,637)	2	690	....	..	...	
do. at Wilbraham road	6	....	...	9	....	699
Richelieu place, east from Richelieu st. (P) (S. R. 8,627)	2	....	145	....	.	145
Richelieu st., south from Adams	4	....	....	....	414	414
Ridgewood place	6	....	....	587	....	587
Ridgewood terrace, north from Mulberry st. (P) (S. R.-8,913)	2	286	....	.	....	286
Rimmon ave., west from Gladwood	6	....	....	1,038		1,038
Ringgold st., North to Chestnut	6	..	....	....	753	753
Ripley ave	2	204	....	....	....	204
Rutland ave., north from Wilbraham road	1¼	141	....	....	....	
do. north from 1¼"	3	37	....	....	...	178
Rutledge ave., east from Main st.	6	....	....	....	530	530
Sackett's ave., south from Worthington st. (P)	¾	...	180	....	....	180
Salem st., Spring to Elliott	3	....	392	.		392
do.	6	....	....	434	..	434
Sanford st., east from Main	6	....	....	....	70	
do. west from Market	4	...	....	....	90	
do. Market to Dwight	6	....	....	....	392	552
do. Market to Dwight	6	....	....	394	...	
do. at Dwight st. main	4	....	....	6	....	400
Sargeant st., west from Main	6	....	....	....	90	
do. near Main to near Fulton	6	..	805	....	...	
do. east from Fulton	6	....	....	....	12	907
do. west from Main	6	....	....	194	....	194
School st., State to High	6	560	....	....	....	....
do. High to Mulberry	4	987	....	....	....	1,497

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement Lined or Wrought Iron. High Service	Cement Lined or Wrought Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Totals in Feet.
Seventh st., west from Main	4	....	702	...	....	
do. east from Fulton	6	....	....	....	224	926
do. west from Main	6	....	....	88	....	88
Shamrock ave., west from Highland st.	2	161	....	...	...	
do. south from Noel ave.	6	....	....	229	....	390
Sharon st., Main to Chestnut	6	....	1,585	....	....	1,585
Shattuck st., College ave. to Cortland st	6	....	....	967	....	967
Sheldon st., west from North Main	4	....	341	....	....	341
do. at North Main	6	...	....	12	....	12
Sheridan ave., south from Morgan st.	2	....	162	....	....	
do. south from 2"	1½	....	54	....	....	216
Sherman st., State to Bay	4	...	....	1,600	...	
do. Bay to Clarendon (P) (S. R. 3,615)	1	101	....	....	....	1,701
Silver st., east from Armory	4	....	....	573	....	573
Smith st., Maple to Dorne	4	....	....	302	....	302
Sorrento ave., north from Sumner	6	....	....	259	....	259
South st., Mill river to Long Hill st.	12	...	....	600	....	
do. south from Long Hill st.	8	....	....	1,167	....	
do. south from 8"	6	....	....	411	....	2,178
Spring st., State to near Summer	6	....	2,075	....	....	
do. near Summer to Lyman	6	....	....	....	350	2,425
do. State to Lyman	6	....	....	2,373	....	2,373
Springfield st., to Chestnut (at brook)	20	....	850	....	...	850
do. east from Chestnut	8	....	....	414	....	
do. west from Armory	8	...	....	240	....	654
Spruce st.	4	735	....	....	....	735
Spruceland ave., Long Hill st. to Magnolia terrace	6	....	....	1,109	....	1,109
State st., west from Water	6	....	....	....	165	
do. west from 6" cast iron	1¼	....	31	....	....	
do. Water to Main	6	....	....	....	993	
do. east from Main	6	....	....	....	50	
do. near Main to Maple	8	....	....	....	772	
do. Maple to Spring	6	....	1,132	....	....	3,143
do. west from 4" (west of Water) (P) (S. R. 5,795–5,918)	2	244	....	....	....	
do. west from Water	4	....	....	330	....	
do. Water to near Main	8	....	....	923	....	
do. west from Main	12	....	....	12	....	
do. Main to Spring	16	....	....	2,026	....	
do. Spring to Federal	16	1,773	....	....	....	
do. east from Federal (see Ludlow reservoir)	24	———	....	....	....	
do. Catherine to Eastern ave., (south of 24" main—for Catherine st.)	12	....	....	138	...	
do. west from College (south of 24" main—for College st.)	8	....	....	93	....	5,539
Stebbins st., State to Union	4	....	....	776	....	776
Sterns terrace, north from Central st.	2	475	....	....	....	475
St. James ave., State st. to Bay	8	200	....	....	....	
do. Bay to Thompson	6	....	....	1,640	....	
do. Thompson to near Dartmouth	6	....	....	1,054	....	
do. south from Dartmouth	8	....	....	12	....	
do. north from Dartmouth	6	....	....	12	....	
do. near Dartmouth to near Lafayette	8	....	....	1,321	....	
do. near Lafayette to Dorchester	6	....	....	174	....	4,413
Stockbridge st., Main to Willow	6	....	....	....	368	368
do. Maple to Willow	6	....	....	470	...	470

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MAIN AND DISTRIBUTION PIPE.—Continued.

Location of Pipe.	Size in Inches.	Length in Feet. Cement Lined or Wrought Iron. High Service	Cement Lined or Wrought Iron. Low Service	Cast Iron. High Service	Cast Iron. Low Service	Total in Feet.
Suffolk st., south from Wilbraham road	6	....	....	1,385	....	1,385
Sullivan st., east from Armory	6	....	....	380	....	380
Summer st., east from Spring	6	....	....	....	43	
do. from 6" to Autumn st	3	....	644	....	....	
do. Autumn st. to Kibbe ave	8	....	....	....	1,221	
do. no. to site of old Athol eng. house	4	....	....	....	210	2,118
do. Kibbe ave. to Federal st	8	....	....	891	....	
do. Federal to Armory	8	....	....	300	....	1,191
Sumner ave., Long Hill st. to Fort Pleasant ave	6	....	....	668	....	
do. Fort Pleasant to Belmont	8	....	....	4,410	....	
do. east from Belmont	8	....	....	1,291	....	6,399
Symonds ave., Worthington st. to North Church ave	4	....	....	....	150	150
Talcott ave., east from Plainfield st	6	....	....	....	735	
do. east from to Fisk ave	6	....	42	....	....	777
Taylor ave., west from Willow st	2	....	197	....	....	197
Taylor st., east from Chestnut	3	....	358	....	....	358
do. Main to Dwight	8	....	....	843	....	
do. east from Dwight	8	....	....	383	....	
do. 8" to Chestnut	6	....	....	44	....	1,270
Temple st., Maple to School	4	....	....	1,137	....	1,137
Tenth st., Main to Chestnut	6	....	....	....	1,625	1,625
do. east from Main	6	....	....	25	....	25
Terrence st	4	815	....	....	....	815
Thomas street	6	....	....	....	632	632
do. at North Main	6	....	....	44	....	44
Thompson st., State to St James ave	8	1,540	....	....	....	
do. St. James ave. to Worthington st	8	....	....	716	....	2,256
Townsley ave	6	....	....	174	....	174
Truxton st	4	....	....	186	....	186
Tyler st., Oak to Hancock	6	1,440	....	....	....	
do. Hancock to Colton	6	....		1,689	....	3,129
Union st., railroad to near Water st	4	....	386	....	....	
do. west from Water	4	....	....	....	49	
do. Water to Main	6	....	....	....	968	
do. Main to Maple	6	....	....	....	1,155	2,558
do. Main to Willow	6	....	....	256	....	
do. Maple to School	6	....	....	665	....	
do. School to Hancock	8	3,925	....	....	....	
do. Hancock to Colton	6	....	....	1,686	....	6,632
Van Horn Reservoir, from gatehouse through dam	12	....	....	....	200	
do. from gatehouse through dam	16	....	....	....	200	
do. dam to Springfield st	20	....	1,800	....	....	2,200
do. from Armory street (high service feeder)	6	....	....	278	....	278
Vassar street	6	....	....	542	....	542
Ventura ave	6	....	....	930	....	930
Vernon st., Main to Water	6	....	....	....	910	910
Vine st., Main to Fulton	6	....	....	....	823	823
do. west from Main	6	....	....	89	....	89
Vinton st., Liberty to near Franklin	6	....	....	641	....	641
Walker ave., Liberty to Franklin	6	....	....	651	....	
do. at Franklin (connecting)	1	15	....	....	....	666
Walker st	6	....	619	....	....	619
do. Walker to Gardner ave	8	....	....	450	....	
do. Gardner ave to railroad	6	....	....	223	....	673

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Walnut st., State to Union	12	700	....	....	....	
do. Union to Cedar	8	2,087	....	....	....	
do. Cedar to Hancock	8	....	....	830	....	
do. Hancock to U. S. Watershops	12	....	....	1,510	....	5,127
Walter st., east from Birnie ave	2	....	251	....	....	251
do. at North Main	6	....	....	41	....	41
Waltham ave., so. from Wilbraham road	6	....	....	537	....	537
Warner place	6	....	....	797	....	797
Warren ave., west from Hancock st	2	112	....	....	....	112
Warriner ave., east from Locust st	6	....	....	360	....	360
Warwick st., east from Heywood ave. (P) (S. R.-6,720)	6	....	....	386	....	
do. comple ion to Armory	6	....	....	867	....	
do. for hydrants (P) (S. R.-6,720)	4	....	....	24	....	1,277
Washburn st., west from east line of Plainfield	6	....	....	....	1,453	1,453
Wason ave., west from North Main st.	8	....	707	....	....	
do. from 8" to Fisk ave	12	....	....	....	213	
do. Fisk ave. to near Plainfield st.	10	....	....	....	972	
do. east from Plainfield st	8	....	....	....	15	1,907
do. west from Birnie ave	8	....	....	93	....	
do. east from Fisk ave	12	....	....	15	....	
do. west from Fisk ave	8	....	....	14	....	122
Water st., Railroad row to Fort st	6	....	615	....	....	
do. Hampden to Gardner	12	....	4,810	....	....	
do. Walker to Lombard (for fire reservoir, opposite Walker st.)	6	....	....	....	105	5,530
do. State to Howard	8	....	....	476	....	
do. Margaret to Walker	8	....	....	588	....	1,064
Waverly st., No. Main to near Chestnut	8	....	860	....	....	
do. near Chestnut to 12"	8	....	....	....	33	
do. 8" to Chestnut	12	....	....	....	15	908
do. at North Main (east and west)	6	....	....	31	....	31
Webster ave., at Pearl st., north	4	....	....	....	6	
do. north from Pearl st	3	....	232	....	....	
do. south from Pearl st. (P) (S. R.-8,496)	1½	....	142	....	....	380
Webster st., Liberty to Franklin	6	....	....	668	....	
do. north from Liberty (see S. R.-7,102 10,119)	1	262	....	....	....	930
Welcome place	6	....	....	252	....	252
Wellesley st	6	....	....	481	....	481
Wellington st., south from Wilbraham road	6	....	....	691	....	691
Wendell ave., east from Main st	6	....	....	....	465	465
Westford ave., Wilbraham road to King st	6	....	....	2,160	....	2,160
Westminster st., State to Bay	6	1,100	....	....	....	
do. Bay to St. James ave	6	....	....	920	....	2,020
White st., south from Allen	6	....	....	2,587	....	2,587
Whitney ave., west from Water	4	....	....	....	419	419
Wight ave., east from Water	6	....	....	....	277	
do. east from 6" (P) (S. R.-8,173)	1¼	....	209	....	....	486
Wilbraham ave., south from Wilbraham road	6	....	....	1,597	....	
do. 6" to King st. (extended)	8	....	....	542	....	
do. north from Alden st	8	....	....	27	....	2,165

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Wilbraham road, Eastern ave. to near Carlisle st., west	12	....	....	3,927	....	
do. 12" to opposite house of Good Shepherd	8	....	....	1,631	....	
do. west from Reed st. (P) (S. R.-7 329)	1½	153	....	....	.	5,711
Wilcox st., Main to Water	6	....	....	....	965	
do. at Water (east and west)	8	....	....	....	6	
do. Water to railroad	4	....	....	....	457	1,428
Willard ave., Shattuck st. to near State	6	....	....	714	....	714
William st., railroad to Water	6	....	523	....	....	
do. Water to Main	6	....	....	....	945	
do. east from Main	6	....	....	....	23	
do. east from 6"	4	....	927	....	....	
do. west from Dale	6	....	....	..	388	2 106
do. east from Main	6	....	....	248	..	248
Willow st., State to Taylor ave	6	....	....	....	630	
do. at Taylor ave	4	....	....	....	3	
do. Taylor ave. to Park st	3	....	....	....	153	786
do. State to Hubbard ave	10	....	....	1,220	....	1,220
Winchester st	4	543	....	....	....	543
Windsor ave	1½	485	....	...	....	485
Windsor st., east from Pine	2	679	....	....	....	679
Winthrop st., east from Main	6	....	....	....	52	
do. west from Dale	4	...	658	....	....	710
Woodbine ave., north from Hickory st.	4	....	....	327	....	
do. north from 4" (P) (S. R.-8,185)	1½	192	....	....	....	519
Woodside ave	6	....	....	449	....	449
Woodworth ave., State st. to High	2	457	....	....	....	457
Worcester ave., east from Plainfield st.	6	....	....	....	811	
do. west from Fisk ave	4	....	....	....	52	863
Worcester st., L. O., Myrtle to Oak	6	....	....	735	....	
do. east from Oak	2	283	....	....	....	1,018
Worthington st., Symonds ave. to Main st.	6	....	....	....	151	
do. Main to Chestnut	6	....	....	...	1,231	
do. east from Chestnut	6	....	....	....	35	
do. cast iron to Kibbe ave	6	....	2,705	....	....	4,122
do. west from Main	8	....	....	101	....	
do. Main to Dwight	8	....	....	795	....	
do. Dwight to near hose house	10	...	..	559	....	
do. near hose house to Federal st	8	....	....	3,402	.	
do. Federal to Bowdoin	8	....	....	1,370	....	
do. Bowdoin to St. James ave	12	....	....	1,654	....	7,781
Yale st., Dartmouth to Princeton	6	...	.	927	...	
do. north from Princeton	6	...	....	739	....	1,666
York st., west from Main	8	.. .	281	....	....	
do. west from wrought-iron	8	....	....	...	183	
do. west from 8"	6	....	....	....	497	961
Totals	....	122,781	67,630	395,346	125,506	711,263

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MAIN AND DISTRIBUTION PIPE—CONCLUDED.

RECAPITULATION BY SIZES

SIZES.	High Service.			Low Service.			Totals in Feet.
	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	Cement-Lined or Wrought-Iron.	Cast Iron.	Total.	
¾-inch	.....	.....	.....	180	.....	180	180
1-inch	879	.....	879	260	.....	260	1,139
1¼-inch	4,572	.....	4,572	1,584	.....	1,584	6,156
1½-inch	1,462	.....	1,462	196	.....	196	1,658
2-inch	19,017	.....	19,017	3,418	.....	3,418	22 435
3-inch	937	.....	937	4,774	1,181	5,955	6,892
4-inch	5,779	39,071	44,850	10,703	12 078	22.781	67,631
6-inch	15.588	179,032	194,620	18,570	84,762	103,332	297,952
8-inch	10,317	69,554	79,871	9,482	16,983	26,465	106,336
10-inch	.....	4,101	4,101	.....	972	972	5,073
12-inch	1,782	25,142	26,924	8,084	8,997	17,081	44,005
16-inch	9,874	16,834	26,708	6,014	523	6,537	33,245
20-inch	.....	1,706	1,706	4,365	10	4,375	6,081
24-inch	52,574	6,331	58,905	.....	.....	.....	58,905
30 inch	.....	40,019	40,019	.....	.....	.....	40,019
36-inch	.....	13,556	13,556	.....	.....	.....	13,556
Totals	122 781	395,346	518,127	67,630	125,506	193,136	711,263

RECAPITULATION BY MATERIAL.

MATERIAL.	High Service.		Low Service.		Totals.	
	Feet.	Miles.	Feet.	Miles.	Feet.	Miles.
Cement-Lined or Wrought-Iron	122,781	23.25	67,630	12.81	190,411	36.06
Cast-Iron	395,346	74.88	125,506	23.77	520,852	98.65
Totals	518,127	98.13	193,136	36.58	711,263	134.71

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GATES SET IN 1897.

(INCLUDING THOSE ADDED.)

ONE-INCH.

Beaudry street, end of 6″ pipe (private),	High,	1	
Cornell place, at Cornell street,	High,	1	
Franklin street, west of Walker avenue,	High,	1	
Gunn square, south side, at Northampton avenue,	High,	1	
Maple street at Central (connecting) (For Gas Light Co.) (private),	High,	1	
Maple street, at Central (connecting) (For Gas Light Co.) (private),	Low,	1	
Maple street, near Mulberry (connecting) (For Gas Light Co.) (private),	Low,	1	
Walker avenue, end of 6″ pipe,	High,	1	
		—	8

ONE AND ONE-QUARTER-INCH.

Cross street, at Willow,	Low,	1	
Maple street, at Mulberry (connecting) (For Gas Light Co.) (private),	High,	1	
Penacook avenue, at Carew street (for S. R.–10,178) (private),	High,	1	
Taylor street (E.) at Chestnut,	Low,	1	
		—	4

ONE AND ONE-HALF-INCH.

Milton street, I. O., end of 6″ Pipe (for S. R.–10,779 and 10,780) (private)	High,	1	
		—	1

TWO-INCH.

Arbor street, near Carew (flush),	Low,	1	
Armory street, end of 6″ pipe,	High,	1	
Cedar street, opposite No. 35 (account previous years, S. R.–2,356),	High,	1	
Concord street, at Rimmon avenue,	High,	1	
Court street, near Water (flush),	Low,	1	
Dawes street, at bend (flush),	High,	1	

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Franklin street, near Walker avenue (W.),	High,	1	
Garfield street, near No. 108 (flush),	High,	1	
Grace street, near No. 17 (flush),	Low,	1	
Grove street, near North Main (flush),	Low,	1	
Harvard street, near St. James avenue (flush),	High,	1	
Highland street, near Orange (flush),	High,	1	
Mapledell, at end of street (flush, private),	High,	1	
Marengo avenue, east end of park,	High,	1	
Marengo avenue, west end of park,	High,	1	
Myrtle street, I. O., at Hampshire (flush),	High,	1	
Mulberry street, at School (flush),	High,	1	
National avenue, at end of pipe (flush) (extension account),	High,	1	
Orleans street, at Dexter court (flush),	High,	1	
Sumner avenue, at Belmont (flush),	High,	1	
Walter street, near No. 16 (flush),	Low,	1	
William street, at No. 8 (flush),	Low,	1	
William street, at Dale (flush),	Low,	1	
		—	23

THREE-INCH.

Bridge street, for No. 99–101 (private),	High,	1	
Montrose street, near No. 95 (flush, private),	High,	1	
Wilbraham road, near Carlisle avenue (flush),	High,	1	
		—	3

FOUR-INCH.

Alden street, at Hickory,	High,	1
Avon place, at Maple street,	Low,	1
Benton street, front of No. 116,	High,	1
Bridge street, for 169-175, (private),	High,	1
Carew place, at Carew street,	Low,	1
Fulton street, for National Needle Co. (private),	Low,	1
Grover street, at Liberty (flush),	High,	1
Homer street, for schoolhouse (private),	High,	1
Howard place, at Howard street,	Low,	1
Jefferson avenue, for schoolhouse (private),	High,	1
Lyman street, for No. 152 (private),	High,	1
Main street, for Hooker school (private),	High,	1
Main street, for Springfield Street Railway Co. (private),	High,	1
Margaret street, for Street Railway Co's power house (private),	High,	1

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Mill street, for the Alden mill (private),	High,	1	
Mill street, for engine house (private),	High,	1	
Oak street, for Strickland schoolhouse (private),	High,	1	
Parker street, I. O., at Oak (S.),	High,	1	
Prospect street, at Massasoit (W.),	Low,	1	
Webster avenue, at Pearl street (N.),	Low,	1	
Westford avenue, north of Beverly (flush),	High,	1	
Worthington street, for No. 95 (private),	Low,	1	
		—	22

SIX-INCH.

Abbe avenue, at Fisk avenue,	Low,	1
Alden street, at Logan (E.),	High,	1
Amherst street, at Princeton (for track hydrant) (private),	High,	1
Beaudry street, I. O., at Main,	High,	1
Beaumont street, at Belmont avenue,	High,	1
Beechwood avenue, at Spruceland,	High,	1
Benton avenue, at Benton street,	High,	1
Benton street, at Wilbraham road,	High,	1
Berendo avenue, at Granada terrace,	High,	1
Berkshire street, I. O., at Oak (W.),	High,	1
Birnie avenue, for Birnie Paper Co. (private),	Low,	1
Bradford street, at Plainfield (for track hydrant) (private),	Low,	1
Carlisle street, at Wilbraham road,	High,	1
Catherine street, at Bowles (for track hydrant) (private),	High,	1
Central street, at Maple,	Low,	1
Chapel street, at Eastern avenue,	High,	1
Chestnut street, at East Taylor (S.),	Low,	1
Chestnut street, at Worthington (N.),	Low,	1
Cleveland street, at Liberty,	High,	1
Coleman street, at Boston road,	High,	1
College street, at State (for track hydrant) (private),	High,	1
Continental avenue, at Sumner,	High,	1
Cottage avenue, at Melrose street,	High,	1
Crescent, street, at Springfield,	High,	1
Elm street, near Court Square avenue (for track hydrant) (private),	High,	1
Fisk avenue, for Holyoke Card and Paper Co. (private),	Low,	1

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Forest avenue, at Belmont,	High,	1
Fort Pleasant avenue, at Crescent terrace (for track hydrant) (private),	High,	1
Granada terrace, at Pomona avenue,	High,	1
Grover street, at Liberty,	High,	1
Hampden street, for Springfield Brewing Co. (private),	High,	1
Hampden street, I. O., at Oak (W.),	High,	1
High street, at Maple,	High,	1
High street, at School,	High,	1
High street, at Walnut (for track hydrant) (private),	High,	1
Hooker street, at North Main (for track hydrant) (private),	High,	1
Jasper street, at Berkshire,	High,	1
Jasper street, at Boston road,	High,	1
Johnson street, at Pear,	High,	1
King street, near Eastern avenue (for track hydrant) (private),	High,	1
King street, at Wilbraham avenue,	High,	1
Liberty street, at Armory (E.) (for track hydrant) (private),	High,	1
Liberty street, at Charles (for track hydrant) (private),	High,	1
Main street, opposite Hampden (for hydrant),	High,	1
Main street, at Hampden, for fire reservoir (revived, account previous years),	Low,	1
Main street, at Norwood (for track hydrant) (private),	Low,	1
Maple street, at Central (for reservoir),	Low,	1
Maple street, at Park (for track hydrant) (private),	High,	1
Maple street, at Union (N.),	Low,	1
Marengo avenue, at Belmont,	High,	1
Margaret street, at Water,	High,	1
Mill street, opposite Lincoln hall (for track hydrant) (private),	High,	1
Milton street, I. O., at Main,	High,	1
Montmorenci street, at Chestnut (for track hydrant) (private),	Low,	1
National avenue, at Sumner,	High,	1
Newland street, at Plainfield,	Low,	1
Northampton avenue, south of Beverly,	High,	1

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North Main street, near Carew (for new car house) (private),	Low,	1
North Main street, near Carew (for new car house) (private),	High.	1
Oak street, I. O., 450 feet south of John A. Ferris's house,	High,	1
Oak street, I. O., at Hampshire (N.),	High,	1
Oak street, I. O., at Parker,	High,	1
Park street, at Maple,	Low,	1
Parker street, I. O., near No. 23,	High,	1
Pasco street, I. O., at Essex,	High,	1
Pearl street, at Chestnut,	Low,	1
Pearl street, at Spring,	Low,	1
Pine street, I. O., at Hampshire (N.),	High,	1
Pine street, I. O., for Chapman Valve Mfg. Co. (private),	High,	1
Pomona avenue, at Sumner,	High,	1
St. James avenue, at Bay street (for track hydrant) (private),	High,	1
Sorrento avenue, at Sumner,	High,	1
Sumner avenue, at car barn (for track hydrant) (private),	High,	1
Thomas street, at Birnie avenue,	Low,	1
Thomas street, at North Main,	Low,	1
Ventura avenue, at Granada terrace (S.),	High,	1
Ventura avenue, at Granada terrace (N.),	High,	1
Ventura avenue, at Sumner,	High,	1
Walker avenue, at Liberty street,	High,	1
Warwick street, at Armory,	High,	1
Warwick street, for Taber-Prang Art Co. (private),	High,	1
Wason avenue, at North Main (for track hydrant) (private),	Low,	1
Water street, for N. Y., N. H. & H. R. R. (private),	Low,	1
Water Street, for Springfield Brewing Co. (private),	Low,	1
Webster street, at Franklin,	High,	1
Webster street, at Liberty,	High,	1
Wellington street, at Wilbraham road,	High,	1
Westford avenue, at King street (N.),	High,	1
Westford avenue, at Wilbraham road,	High,	1
Wilbraham road, at end of pipe (for hydrant),	High,	1

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Worcester street, I. O., at Oak (W.),	High,	1	
Worthington street, at Chestnut (E.),	Low,	1	
Worthington street, E. of Federal (for track hydrant) (private),	High,	1	
		—	93

EIGHT-INCH.

Carew street, at North (E.),	Low,	1	
Liberty street (for standpipe for B. & A. R. R. station) (private),	High,	1	
Lyman street (for standpipe for B. & A. R. R. station) (private),	High,	1	
Water street, at Loring (N.),	High,	1	
Wilbraham avenue, at Alden street (N.),	High,	1	
Wilbraham road, near Carlisle street,	High,	1	
		—	6

TWELVE-INCH.

Hampden street, at Water,	Low,	1	
North street, Ludlow, additional supply for Ludlow village,	High,	1	
		—	2
Total number of gates added in 1897,			162

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GATES TAKEN OUT IN 1897.

(INCLUDING THOSE ABANDONED)

ONE-INCH.

Chapel street, at Eastern avenue (private),	High,	1	
Webster avenue, at Pearl street (N.),	Low,	1	
		—	2

ONE AND ONE-QUARTER-INCH.

Benton street, end of 4″ pipe,	High,	1	
Chestnut street, end of 6″ pipe near Christ church, (account of 1895),	High,	1	
Court street, near Water (flush),	Low,	1	
Harvard street, near St. James avenue (flush),	High,	1	
Jefferson avenue, at North Main street (account of 1892),	Low,	1	
Orleans street, at Dexter court (flush),	High,	1	
William street, at No. 8 (flush),	Low,	1	
William street, at Dale (flush),	Low,	1	
		—	8

THREE-INCH.

Avon place, at Maple street,	Low,	1	
High street, at School (for fire reservoir),	Low,	1	
High street, at School (W.),	Low,	1	
High street, for South church (private),	Low,	1	
High street, at Maple,	Low,	1	
Maple street, at Cross (for fire reservoir),	Low,	1	
Mulberry street, at Maple,	Low,	1	
Mulberry street, at School (flush),	Low,	1	
Park street, at Maple,	Low,	1	
Taylor street (E.), at Chestnut,	Low,	1	
Union street, at Maple (W.),	Low,	1	
Union street, at Maple (E.),	Low,	1	
Union street, at School,	Low,	1	
		—	13

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SIX-INCH.

Chestnut street, at Worthington (N.), . .	Low,	1	
		—	1
Total, ...			24

Number of gates, December 1, 1896, .		1,545
Number of gates added in 1897, . . .	162	
Number of gates taken out in 1897, . .	24	
Net addition in 1897, . . .		138
Total number of gates, December 1, 1897, .		1,683

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FIRE HYDRANTS SET IN 1897.

HIGH SERVICE.

Alden street, north side, at Hickory,	1
Armory street, front of truant school,	1
Beaudry street, I. O., east side, end of pipe,	1
Beaumont street, west side, end of pipe,	1
Benton avenue, N. E. corner Benton street,	1
Benton street, N. E. corner Wilbraham road,	1
Berendo avenue, S. E. corner Alderman street,	1
Boston road, north side, near Jasper street,	1
Bridge street, N. E. corner Dwight,	1
Carlisle street, S. E. corner Wilbraham road,	1
Central street, N. E. corner Spruce,	1
Chestnut street, I. O., S. W. corner Worcester,	1
Coleman street, east side, end of pipe,	1
Continental avenue, east side, end of pipe,	1
Cross street, N. E. corner Willow,	1
East Hooker street, N. E. corner North Main,	1
Forest avenue, about 300 feet south of Sumner,	1
Grover street, N. W. corner Liberty,	1
High street, south side, opposite No. 36,	1
Hillman street, N. E. corner Main,	1
Jefferson avenue, north side, midway North Main and North streets,	1
Jefferson avenue, N. W. corner North street,	1
King street, N. W. corner Northampton avenue,	1
Liberty street, S. E. corner Main,	1
Main street, east side, opposite Hampden,	1
Marengo avenue, N. E. corner Dickinson street,	1
Marengo avenue, north side, at Swan,	1
Margaret street, at street railway power house,	1
Milton street, I. O., east side, end of pipe,	1
Northampton avenue, east side, end of pipe,	1
Oak street, I. O., opposite freight house of B. & A. R. R. main line,	1
Oak street, I. O., at John A. Ferris's house,	1
Parker street, I. O., at schoolhouse,	1
Parker street, I. O., midway schoolhouse and Oak street,	1

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Parker street, I. O., south end of pipe,	1	
Pasco street, I. O., S. E. corner Essex,	1	
Pasco street, I. O., east side, end of pipe,	1	
Pomona avenue, east side, opposite Granada terrace,	1	
Sorrento avenue, N. E. corner Sumner,	1	
State street, N. E. corner Main,	1	
Stockbridge street, N. E. corner Willow,	1	
Ventura avenue, S. E. corner Granada terrace,	1	
Walnut street, S. E. corner State,	1	
Warwick street, north side, opposite Taber-Prang Co.'s shop,	1	
Water street, S. W. corner Margaret,	1	
Webster street, S. W. corner Franklin,	1	
Wellington street, S. E. corner Wilbraham road,	1	
Westford avenue, S. E. corner Wilbraham road,	1	
Westford avenue, east side, at Gunn square,	1	
Wilbraham avenue, N. E. corner King street,	1	
Wilbraham road, north side, end of pipe,	1	
	—	51

LOW SERVICE.

Abbe avenue, just east of No. 154,	1	
Birnie avenue, east side, near Douglas street,	1	
Broad street, S. E. corner Hanover,	1	
Broad street, S. W. corner Main,	1	
Carew place, east side, end of pipe,	1	
Carew street, north side, midway North and Chestnut,	1	
Franklin street, north side, east end of pipe,	1	
Maple street, front of No. 140,	1	
Maple street, front of No. 104,	1	
Maple street, S. W. corner Park,	1	
Maple street, S. E. corner Temple,	1	
Newland street, N. W. corner Plainfield,	1	
Pearl street, opposite Salem,	1	
Railroad row, front of driveway of Massasoit house,	1	
	—	14
Total number city hydrants set in 1897,		65

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FIRE HYDRANTS TAKEN OUT IN 1897.

HIGH SERVICE.

Bridge street, N. E. corner Dwight,	1	
Central street, N. E. corner Spruce,	1	
Chestnut street, I. O., S. W. corner Worcester,	1	
Cross street. N. E. corner Willow,	1	
Hillman street, N. E. corner Main,	1	
Liberty street, S. E. corner Main,	1	
Main street, opposite Hampden,	1	
State street, N. E. corner Main,	1	
Stockbridge street, N. E. corner Willow,	1	
Walnut street, S. E. corner State,	1	
	—	10

LOW SERVICE.

Broad street, S. E. corner Hanover,	1	
Broad street, S. W. corner Main,	1	
High street, S. E. corner Maple,	1	
Pearl street, opposite Salem,	1	
	—	4
Total number city hydrants taken out in 1897,		14

Number of city hydrants as per report, December 1, 1896,		841
Number of city hydrants set in 1897,	65	
Number of city hydrants taken out in 1897,	14	
Net addition, 1897,		51
Total number of city hydrants December 1, 1897,		892
{ High service, 642 }		
{ Low service, 250 }		

Number of private hydrants December 1, 1896,	86	
Number of private hydrants set in 1897,	0	
Total number of private hydrants December 1, 1897,		86

Total number of hydrants connected with the works December 1, 1897,	978

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FIRE HYDRANTS

CONNECTED WITH THE WORKS.

No.	High or Low.	Location.	Make.
1.	H.	S. W. corner Main and Cypress streets.	Chapman
2.	L.	N. W. corner Main and Cypress streets.	Chapman
3.	H.	N. W. corner Cypress street and Cypress avenue.	Chapman
4.	H.	N. E. corner Gray's avenue and Cypress street.	Chapman
5.	L.	Gray's avenue, west side, midway.	Chapman
6.	L.	Boylston street, east side, between Cypress and Emery streets.	Chapman
7.	H.	N. E. corner Cypress and Boylston streets.	Chapman
8.	L.	N. E. corner Fulton and Cypress streets.	Perkins
9.	H.	N. E. corner Fulton and Cypress streets.	Chapman
10.	H.	N. E. corner Fulton and Emery streets.	Chapman
11.	L.	N. E. corner Fulton and Emery streets.	Chapman
12.	H.	N. E. corner Emery and Boylston streets.	Chapman
13.	H.	Emery street, north side, opposite Gray's avenue.	Chapman
14.	H.	S. W. corner Main and Emery streets.	Chapman
15.	H.	N. W. corner Main and Clinton streets.	Chapman
16.	L	Clinton street, south side, midway.	Chapman
17.	L.	N. E. corner Fulton and Clinton streets.	Chapman
18.	L.	N. E. corner Fulton and Vine streets.	Chapman
19.	L.	Vine street, south side, midway.	Chapman
20.	H.	N. W. corner Main and Vine streets.	Chapman
21.	H.	N. W. corner Main and Holyoke streets.	Chapman
22.	L.	Holyoke street, north side, midway.	Chapman
23.	L.	N. E. corner Fulton and Holyoke streets.	Chapman
24.	L	N. E. corner Fulton and Auburn streets.	Chapman
25.	L.	Auburn street, north side, midway.	Chapman
26.	H.	S. W. corner Main and Auburn streets.	Chapman
27.	H.	S. W. corner Main and Seventh streets.	Chapman
28.	L.	Seventh street, north side, midway.	Perkins
29.	L.	N. E. corner Fulton and Seventh streets.	Chapman
30.	L.	N. E. corner Fulton and Sargeant streets.	Chapman
31.	H.	N. W. corner Main and Sargeant streets.	Chapman
32.	H.	N. W. corner No. Main and Bradford streets.	Chapman
33.	L.	Bradford street, north side, midway.	Chapman
34.	L.	N. E. corner Fulton and Bradford streets.	Chapman

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No.	High or Low.	Location.	Make.
35.	L.	N. E. corner Fulton and John streets.	Chapman
36.	L.	S. W. corner Plainfield and John streets.	Chapman
37.	L.	Plainfield street, west side, near Plymouth.	Chapman
38.	L.	Fulton street, opposite M. Dunn's house, Round Hill.	Chapman
39.	L.	Plainfield street, north side, at Fulton.	Chapman
40.	L.	N. W. corner Plainfield and Washburn streets.	Chapman
41.	L.	N. W. corner Plainfield and Lowell streets.	Chapman
42.	L.	Lowell street, north side, midway.	Chapman
43.	L.	Lowell street, north side, at end of street.	Chapman
44.	L.	Washburn street, north side, midway.	Chapman
45.	L.	Washburn street, north side, at end of street.	Chapman
46.	L.	Orchard street, west end, north side.	Chapman
47.	L.	Orchard street, N. W. corner Plainfield.	Chapman
48.	L.	Newland street, N. W. corner Plainfield, 6″ S. con.	Chapman
49.	L.	Plainfield street, east side, opposite Clayton.	Chapman
50.	L.	Abbe avenue, N. W. corner Plainfield street.	Chapman
51.	L.	Abbe avenue, just east of No. 154, 6″ S. con.	Chapman
52.	L.	Talcott avenue, N. E. corner Plainfield street.	Chapman
53.	L.	Talcott avenue, north side, midway.	Chapman
54.	L.	N. W. corner Fisk and Talcott avenues.	Chapman
55.	H.	S. W. corner Fisk and Worcester avenues.	Chapman
56.	H.	Fisk avenue, east end of Holyoke Card and Paper Co.'s shop.	Chapman
57.	H.	S. W. corner Fisk and Hyde avenues.	Chapman
58.	H.	S. W. corner Fisk and Demond avenues.	Chapman
59.	L.	N. W. corner Fisk and Worcester avenues.	Chapman
60.	L.	Worcester avenue, north side, midway.	Chapman
61.	L.	N. E. corner Plainfield street and Worcester avenue.	Chapman
62.	L.	Demond avenue, north side, midway.	Chapman
63.	L.	N. E. corner Plainfield street and Demond avenue.	Chapman
64.	H.	Hyde avenue, S. E. corner Plainfield street.	Chapman
65.	L.	N. E. corner Plainfield street and Hyde avenue.	Chapman
66.	L.	S. E. corner Plainfield street and Wason avenue.	Chapman
67.	H.	S. W. corner Wason and Fisk avenues.	Chapman
68.	L.	S. E. corner Wason and Fisk avenues.	Matthews
69.	L.	Wason avenue, north side, opposite No. 31.	Chapman
70.	H.	Birnie avenue, S. E. corner Wason, 6″.	Chapman
71.	L.	North Main street, opposite Wason avenue.	Chapman
72.	H.	Birnie avenue, 200 feet north of Grace street.	Chapman
73.	H.	S. E. corner Birnie avenue and Grace street.	Chapman

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No.	High or Low.	Location.	Make.
74.	L.	Birnie avenue, at end of Grace street.	Ayers
75.	H.	S. W. corner No. Main and Grace streets.	Chapman
76.	H.	N. W. corner No. Main and Walter streets.	Chapman
77.	H.	Birnie avenue, S. E. corner Alfred street, 6″.	Perkins
78.	H.	Birnie avenue, S. E. corner Douglas street.	Chapman
79.	H.	Birnie avenue, just south of preceding.	Chapman
80.	L	Birnie avenue, between the two preceding, 6″ S. con.	Chapman
81.	H.	Douglas street, N. W. corner No. Main.	Chapman
82.	H.	N. E. corner No. Main and Grove streets.	Chapman
83.	L.	N. W. corner No. Main and Hooker streets.	Chapman
84.	H.	East Hooker street, N. E. corner No. Main, 6″ S. con.	Chapman
85.	L.	N. E. corner No. Main and Calhoun streets.	Chapman
86.	H.	S. E. corner No. Main and Calhoun streets.	Chapman
87.	L	N. E. corner No. Main street and Jefferson avenue.	Chapman
88.	H.	Jefferson avenue, midway No. Main and North streets, 6″ S. con.	Chapman
89.	L.	Arch street, north side, front of No. 36.	Chapman
90.	H.	N. W. corner No. Main and Arch streets.	Perkins
91.	L.	Bancroft street, south side, midway.	Chapman
92.	H.	N. E. corner No. Main and Bancroft streets.	Chapman
93.	L.	N. E. corner No. Main and Bancroft streets.	Chapman
94.	H.	S. E. corner No. Main and Osgood streets.	Chapman
95.	L.	Morgan street, south side, midway.	Chapman
96.	H.	N. E. corner No. Main and Morgan streets.	Chapman
97.	L.	S. E. corner No. Main and Morgan streets.	Brown
98.	H.	S. E. corner No. Main and Church streets.	Chapman
99.	H.	North street, N. E. corner Carew.	Chapman
100.	L.	N. E. corner Carew and North streets.	Chapman
101.	L.	Carew place, east side, end of pipe.	Chapman
102.	H.	S. E. corner Main and Carew streets.	Chapman
103.	H.	S. E. corner Main and Bond streets.	Chapman
104.	L.	N. E. corner Main and Bond streets.	Chapman
105.	L.	Bond street, north side, midway.	Chapman
106.	L	Bond street, north side, front of Nos. 110–112.	Chapman
107.	L.	N. W. corner Chestnut and Patton streets.	Chapman
108.	L.	Patton street, north side, front of No. 54.	Chapman
109.	L.	N. E. corner Main and Patton streets.	Chapman
110.	H.	S. E. corner Main and Patton streets.	Chapman
111.	H.	N. E. corner Main and Essex streets.	Chapman
112.	L.	N. E. corner Main and Essex streets.	Perkins

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No.	High or Low.	Location.	Make.
113.	L.	—Essex street, north side, opposite No. 51.	Perkins
114.	L.	—Essex street, north side, front of No. 98.	Perkins
115.	L.	—N. W. corner Chestnut and Tenth streets.	Chapman
116.	L.	—Tenth street, north side, opposite Nos. 105–107.	Chapman
117.	L.	—Tenth street, north side, front of Nos. 54–56.	Chapman
118.	H.	—N. E. corner Main and Tenth streets.	Chapman
119.	H.	—N. E. corner Main and Greenwood streets.	Chapman
120.	L.	—Greenwood street, north side, front of No. 42.	Chapman
121.	L.	—Greenwood street, north side, opposite No. 83.	Chapman
122.	L.	—Greenwood street, north side, front of No. 118.	Chapman
123.	H.	—S. W. corner Chestnut and Franklin streets.	Chapman
124.	H.	—Franklin street, south side, front of Nos. 111–113.	Chapman
125.	H.	—Franklin street, south side, at stone yard.	Chapman
126.	H.	—Franklin street, south side, opposite No. 46.	Chapman
127.	L.	—N. E. corner Main and Franklin streets.	Chapman
128.	H.	—Franklin street, S. E. corner Main, 6″ S. con.	Chapman
129.	H.	—S. E. corner Main and Congress streets.	Chapman
130.	L.	—Congress street, north side, opposite No. 33.	Chapman
131.	L.	—Congress street, north side, opposite No. 97.	Chapman
132.	L.	—N. W. corner Chestnut and Sharon streets.	Perkins
133.	L.	—Sharon street, north side, front of No. 92.	Perkins
134.	L.	—Sharon street, north side, front of No. 52.	Perkins
135.	H.	—S. E. corner Main and Sharon streets.	Chapman
136.	H.	—S. E. corner Main and Ferry streets.	Chapman
137.	L.	—Ferry street, north side, front of No. 46.	Chapman
138.	L.	—Ferry street, north side, opposite No. 97.	Chapman
139.	L.	—Chestnut street, west side, opposite Liberty.	Perkins
140.	H.	—Chestnut street, opposite Ferry, 6″ S. con.	Chapman
141.	H.	—Chestnut street, opposite No. 275, 6″ S. con.	Chapman
142.	H.	—Chestnut street, opposite Sharon, 6″ S. con.	Chapman
143.	H.	—Chestnut street, east side, opposite Congress.	Chapman
144.	H.	—Chestnut street, S. E. corner Franklin, 6″ S. con.	Chapman
145.	H.	—Chestnut street, opposite Greenwood, 6″ S. con.	Chapman
146.	H.	—Chestnut street, opposite Tenth, 6″ S. con.	Chapman
147.	H.	—N. E. corner Chestnut and Linden streets, 6″ S. con.	Chapman
148.	L.	—Linden street, near S. E. corner Chestnut.	Chapman
149.	L.	—Linden street, south side, opposite No. 46.	Perkins
150.	L.	—S. W. corner Cass and Linden streets.	Chapman
151.	L.	—S. W. corner Cass and Everett streets.	Chapman
152.	L.	—Everett street, south side, midway.	Ayers
153.	H.	—Chestnut street, opposite Patton, 6″ S. con.	Chapman

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No.	High or Low.	Location.	Make.
154.	L.	S. E. corner Chestnut and Everett streets.	Chapman
155.	L.	N. E. corner Chestnut and Butler streets.	Chapman
156.	L.	Arbor street, east side, front of No. 40.	Chapman
157.	H.	Massasoit street, N. E. corner Carew.	Chapman
158.	L.	N. W. corner Carew and Massasoit streets.	Chapman
159.	H.	Chestnut street, S. E. corner Carew.	Chapman
160.	L.	N. E. corner Chestnut and Carew streets.	Chapman
161.	L.	Carew street, midway North and Chestnut, 6″ S. con.	Chapman
162.	L.	N. E. corner North and Grosvenor streets.	Chapman
163.	L.	Grosvenor street, south side, midway.	Chapman
164.	L.	N. W. corner Chestnut and Grosvenor streets.	Chapman
165.	L.	S. W. corner Chestnut and Ringgold streets.	Chapman
166.	L.	Ringgold street, south side, midway.	Chapman
167.	L.	N. E. corner North and Ringgold streets.	Chapman
168.	L.	S. W. corner North and Morgan streets.	Chapman
169.	L.	N. W. corner North and Osgood streets.	Chapman
170.	L.	Hebron street, north side, midway.	Chapman
171.	L.	N. W. corner Chestnut and Hebron streets.	Chapman
172.	L.	S. W. corner Prospect and Massasoit streets.	Chapman
173.	L.	Allendale street, south side, midway.	Chapman
174.	L.	N. W. corner Chestnut and Allendale streets.	Chapman
175.	L.	S. W. corner Chestnut and Bancroft streets.	Chapman
176.	L.	Lexington avenue, N. W. corner Massasoit street.	Chapman
177.	L.	S. W. corner North and Bancroft streets.	Perkins
178.	L.	S. W. corner North street and Jefferson avenue.	Chapman
179.	H.	N. W. corner North street and Jefferson avenue, 6″ S. con.	Chapman
180.	L.	N. W. corner Montmorenci and Massasoit streets.	Chapman
181.	L	Montmorenci street, north side, midway.	Chapman
182.	L.	N. W. corner Chestnut street and Jefferson avenue.	Chapman
183.	L.	Calhoun street, north side, at North.	Chapman
184.	L.	Alexander street, N. E. corner North.	Chapman
185.	L.	S. W. corner Chestnut and Waverly streets.	Chapman
186.	L.	Chestnut street, west side, near Springfield.	Chapman
187.	H.	Merwin street, N. W. corner Chestnut, S. con.	Chapman
188.	H.	Eagle street, N. W. corner Chestnut, S. con.	Chapman
189.	H.	Springfield street, opposite city hospital, 6″ S. con.	Chapman
190.	H.	Atwater terrace, north side, end of pipe.	Chapman
191.	H.	Rimmon avenue, south side, end of pipe.	Perkins
192.	H.	Rimmon avenue, S. W. corner Gladwood.	Perkins

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No.	High or Low.	Location.	Make.
193.	H.	—Springfield street, S. W. corner Armory.	Perkins
194.	H.	—Armory street, front of truant school, 6″ S. con.	Chapman
195.	H.	—N. E. corner Carew and Armory streets.	Chapman
196.	H.	—Cleveland street, N. E. corner Armory, 6″ S. con.	Chapman
197.	H.	—Cleveland street, N. W. corner Liberty, 6″ S. con.	Chapman
198.	H.	—Grover street, N. W. corner Liberty, 6″ S. con.	Chapman
199.	H.	—Sullivan street, N. E. corner Armory, 6″ S. con.	Chapman
200.	H.	—S. E. corner Liberty and Armory streets.	Chapman
201.	H.	—Liberty street, (about 500 feet W. of Armory street), 6″ S. con.	Chapman
202.	H.	—Liberty street, front of Gurdon Bill's, 6″ S. con.	Chapman
203.	H	—S. W. corner Liberty street and Heywood avenue.	Chapman
204.	H.	—Warwick street, north side, opposite Taber-Prang Co.'s, 6″ S. con.	Chapman
205.	H.	—Liberty street, south side, opposite Webster.	Chapman
206.	H.	—N. E. corner Liberty and Vinton streets.	Chapman
207.	H.	—Vinton street, S. E. corner Franklin.	Chapman
208.	H.	—Webster street, S. W. corner Franklin, 6″ S. con.	Chapman
209.	H.	—Franklin street, north side, east end of pipe, 6″ S. con.	Chapman
210.	H.	—Cass street, S. E. corner Franklin.	Chapman
211.	H.	—Liberty street, south side, opposite Cass.	Chapman
212.	L.	—Liberty street, south side, front of the R. F. Hawkins shops.	Perkins
213.	H.	—Liberty street, north side, front of No. 200.	Chapman
214.	H.	—S. E. corner Liberty and Charles streets.	Chapman
215.	L.	—Charles street, west side, midway between Franklin and Liberty streets.	Ayers
216.	H.	—Charles street, west side, near B. & A. R. R. freight house.	Chapman
217.	H.	—S. E. corner Chestnut and Liberty streets.	Chapman
218.	H.	—N. E. corner Chestnut and Charles streets.	Chapman
219.	H.	—S. W. corner Chestnut and Liberty streets.	Chapman
220.	H.	—N. W. corner Chestnut and Liberty streets. 6″ S. con.	Chapman
221.	L.	—Liberty street, north side, opposite Day & Jobson's planing mill.	Perkins
222.	H.	—Liberty street, south side, front of depot.	Chapman
223.	L.	—Liberty street, south side, opposite No. 74.	Chapman
224.	L.	—Liberty street, south side, east of Cooley's hotel.	Chapman
225.	H.	—Liberty street, south side, east of Cooley's hotel.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
226.	L.	Liberty street, S. E. corner Main, 6″ S. con.	Chapman
227.	H.	S. E. corner Main and Liberty streets, 6″ S. con.	Chapman
228.	H.	Main street, east side, just north of arch.	Chapman
229.	L.	Railroad row, S. W. corner Main street, 6″ S. con.	Chapman
230.	L.	Railroad row, at driveway of Massasoit house, 6″ S. con.	Chapman
231.	L.	S. E. corner Water street and Railroad row.	Matthews
232.	H.	S. E. corner Water and Hampden streets.	Perkins
233.	H.	Hampden street, north side, midway.	Perkins
234.	L.	S. W. corner Main and Hampden streets, 6″ S. con.	Chapman
235.	L.	Fort street, south side, midway.	Chapman
236.	L.	S. E. corner Water and Fort streets.	Chapman
237.	L.	S. W. corner Main and Worthington streets.	Chapman
238.	L.	N. W. corner Main and Bridge streets.	Chapman
239.	H.	Bridge street, north side, opposite Bond place.	Chapman
240.	H.	Bond place, west side, south end.	Chapman
241.	H.	Bridge street, south side, front of No. 43.	Matthews
242.	L.	N. E. corner Water and Bridge streets.	Chapman
243.	H.	N. W. corner Water and Bridge streets.	Chapman
244.	L.	Wight avenue, north side, at end of avenue.	Chapman
245.	L.	N. E. corner Water and Vernon streets.	Chapman
246.	L.	Vernon street, north side, midway.	Chapman
247.	H.	N. W. corner Main and Vernon streets.	Matthews
248.	L.	Main street, west side, front of No. 360, 6″ S. con.	Chapman
249.	L.	Main street, west side, front of No. 388, 6″ S. con.	Chapman
250.	L.	S. W. corner Main and Vernon streets.	Chapman
251.	H.	N. W. corner Main and Pynchon streets.	Matthews
252.	L.	S. W. corner Main and Pynchon streets.	Chapman
253.	H.	Pynchon street, south side, front of park.	Chapman
254.	H.	City Hall avenue, west side, midway.	Chapman
255.	L.	N. E. corner Water and Pynchon streets.	Chapman
256	L.	Court street, south side, near Water.	Chapman
257.	L.	Court street, south side, midway.	Chapman
258.	H.	Court street, south side, opposite City Hall, 6″.	Perkins
259.	L.	N. W. corner Main and Court streets, 6″ S. con.	Chapman
260.	H.	S. W. corner Main and Court streets.	Chapman
261.	H.	N. W. corner Main and Elm streets, 6″.	Perkins
262.	L.	S. W. corner Main and Elm streets, 6″ S. con.	Chapman
263.	H.	Elm street, S. W. corner Court square.	Chapman
264.	L.	Elm street, south side, midway.	Chapman
265.	L.	N. E. corner Water and Elm streets.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
266.	H.	State street, west of N. Y., N. H. & H. R. R.	Chapman
267.	H	N. E. corner Water and State streets, 6″.	Perkins
268.	L.	S. E. corner Water and State streets.	Chapman
269.	H.	State street, north side, front of No. 52, 6″ S. con.	Chapman
270.	L.	State street, south side, front of No. 71, 6″ S. con.	Chapman
271.	H.	State street, north side, near Court House.	Chapman
272.	L.	S. W. corner Main and State streets.	Chapman
273.	H.	N. W. corner Main and Bliss streets.	Chapman
274.	L.	S. W. corner Main and Bliss streets, 6″ S. con.	Chapman
275.	L.	Bliss street, south side, front of No. 29.	Chapman
276.	L.	Bliss street, south side, front of Nos. 57-59.	Chapman
277.	H.	Water street, N. E. corner Bliss.	Chapman
278.	L.	N. E. corner Water and Bliss streets.	Chapman
279.	H.	Howard street, north side, near N. Y., N. H. & H. R. R.	Chapman
280.	L.	Howard street, south side, near N. Y., N. H. & H. R. R.	Perkins
281.	H.	Water street, N. E. corner Howard.	Chapman
282.	L.	N. W. corner Water and Howard streets.	Chapman
283.	L.	Howard street, south side, front of No. 43.	Perkins
284.	H.	N. W. corner Main and Howard streets.	Chapman
285.	L.	S. W. corner Main and Howard streets.	Chapman
286.	L.	S. W. corner Main and Union streets.	Chapman
287.	L.	Union street, south side, midway Main and Water.	Chapman
288.	H.	Union street, north side, midway Main and Water.	Chapman
289.	L.	S. E. corner Water and Union streets.	Chapman
290.	L.	Wilcox street, north side, near railroad.	Chapman
291.	L.	S. E. corner Water and Wilcox streets.	Chapman
292.	L.	Wilcox street, south side, front of No. 47.	Chapman
293.	H.	N. W. corner Main and Wilcox streets.	Chapman
294.	L.	S. W. corner Main and Wilcox streets.	Chapman
295.	L.	S. W. corner Main and William streets.	Chapman
296.	L.	William street, north side, front of No. 120.	Chapman
297.	L.	William street, north side, opposite No. 83.	Chapman
298.	L.	N. W. corner Water and William streets.	Perkins
299.	L.	William street, north side, near railroad.	Perkins
300.	L.	Margaret street, north side, near railroad.	Chapman
301.	H.	Margaret street, at street railway power house, 6″ S. con.	Chapman
302.	H.	Water street, S. W. corner Margaret, 6″ S con.	Chapman
303.	L.	N. E. corner Water and Margaret streets.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
304.	L	—Margaret street, south side, opposite Nos. 42-44.	Chapman
305.	H.	—N. W. corner Main and Margaret streets.	Chapman
306.	L.	—S. W. corner Main and Margaret streets.	Chapman
307.	L	—S. W. corner Main and Fremont streets.	Chapman
308.	L.	—Fremont street, south side, front of No. 41.	Chapman
309.	L.	—N. E. corner Water and Fremont streets.	Chapman
310	L.	—Whitney avenue, north side, end of avenue.	Chapman
311.	H.	—Water street, west side near Loring.	Chapman
312.	H.	—Loring street, north side, front of No. 34.	Chapman
313.	H.	—N. W. corner Main and Loring streets.	Chapman
314.	L.	—Lombard street, north side, opposite No. 25.	Chapman
315.	H.	—S. W. corner Water and Walker streets.	Chapman
316.	H.	—Walker street, south side, near Walker's shop.	Chapman
317.	L	—Walker street, north side, midway, 6″ S. con.	Chapman
318.	H.	—Walker street, south side, near railroad.	Chapman
319.	H.	—S. E. corner Gardner and Hanover streets.	Chapman
320.	L	—Gardner street, north side, front of No. 96.	Chapman
321.	H.	—Gardner street, south side, opposite Gardner avenue.	Chapman
322.	L.	—N. E. corner Water and Gardner streets.	Perkins
323.	L.	—N. E corner Hanover and Norwood streets.	Perkins
324.	L.	—Norwood street, south side, midway.	Chapman
325.	L.	—N. W. corner Main and Norwood streets	Chapman
326.	L.	—S. W. corner Main and Broad streets, 6″ S. con.	Chapman
327.	L	—S E. corner Hanover and Broad streets, 6″ S. con.	Chapman
328.	H.	—Hanover street, east side, near Broad.	Chapman
329.	L.	—Elmwood street, north side, near Barney & Berry's shop.	Chapman
330.	H.	—N. W. corner Hanover and York streets.	Chapman
331.	L.	—York street, north side, front of schoolhouse.	Chapman
332.	L.	—N. W. corner Main and York streets.	Perkins
333.	H.	—Main street, east side, opposite No. 962.	Matthews
334.	H.	—South street, east side, opposite No. 5.	Chapman
335.	H.	—S. E. corner South and Long Hill streets.	Chapman
336.	H.	—South street, east side, below Long Hill, 6″ S. con.	Chapman
337.	H.	—South street, east side, at south end bridge, 6″ S. con.	Chapman
338.	H.	—Long Hill street, east side, near brick yard.	Chapman
339.	H.	—Warner place, north side, midway, 6″ S. con.	Chapman
340.	H.	—Maplewood terrace, N. E. corner Fort Pleasant avenue, 6″ S. con.	Chapman

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No.	High or Low.	Location.	Make.
341.	H.	Long Hill street, east side, north of Sumner avenue.	Chapman
342.	H.	N. E. corner Long Hill street and Sumner ave.	Chapman
343.	H.	Long Hill street, east side, near schoolhouse.	Chapman
344.	H.	Spruceland avenue, north side, opposite No. 50.	Perkins
345.	H.	Spruceland avenue, S. W. corner Magnolia terrace.	Chapman
346.	H.	Magnolia terrace, end of pipe.	Chapman
347.	H.	Firglade avenue, east side.	Chapman
348.	H.	Hawthorn place, east side.	Chapman
349.	H.	S. E. corner Sumner avenue and Hawthorn place.	Chapman
350.	H.	S. E. corner Sumner and Firglade avenues.	Chapman
351.	H.	Magnolia terrace, at Sumner avenue.	Chapman
352.	H.	N. W. corner Sumner and Fort Pleasant avenues.	Chapman
353.	H.	Maplewood terrace, north side, midway, S. con.	Chapman
354.	H.	Maplewood terrace, N. W. corner Park avenue.	Chapman
355.	H.	S. E. corner Forest street and Park avenue.	Chapman
356.	H.	Park avenue, N. E. corner Sumner.	Chapman
357.	H.	Greenleaf street, N. E. corner Sumner avenue.	Chapman
358.	H.	Sumner avenue, south side, at Forest park, 6″ S. con.	Chapman
359.	H.	Churchill street, N. E. corner Sumner avenue.	Chapman
360.	H.	Churchill street, S. E. corner Garfield.	Chapman
361.	H.	Greenleaf street, S. E. corner Garfield.	Chapman
362.	H.	Fairfield street, north side, midway.	Chapman
363.	H.	S. E. corner Belmont avenue and Litchfield street.	Chapman
364.	H.	Litchfield street, N. E. corner Garfield.	Chapman
365.	H.	N. W. corner Belmont avenue and Oakland street.	Chapman
366.	H.	Kenwood park, N. W. corner Belmont avenue, 6″.	Chapman
367.	H.	Beaumont street, west side, end of pipe, 6″ S. con.	Chapman
368.	H.	Sumner avenue, S. W. corner Belmont.	Chapman
369.	H.	Forest avenue, about 300 ft. south of Sumner, 6″ S. con.	Chapman
370.	H.	Cliftwood avenue, 6″ S. con.	Chapman
371.	H.	Lenox street, 6″ S. con.	Chapman
372.	H.	Continental avenue, east side, end of pipe, 6″ S. con.	Chapman
373.	H.	Sumner ave., south side, near Converse street, 6″ S. con.	Chapman
374.	H.	Sorrento avenue, S. E. corner Granada terrace, 6″ S. con.	Chapman

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No.	High or Low.	Location.	Make.
375.	H.	—Ventura avenue, S. E. corner Granada terrace, 6″ S. con.	Chapman
376.	H.	—Pomona avenue, opposite Granada terrace, 6″ S. con.	Chapman
377.	H.	—Granada terrace, in grass plot.	Chapman
378.	H.	—Granada terrace, N. E. corner Dickinson, 6″ S. con.	Chapman
379.	H.	—Berendo avenue, S. E. corner Alderman street, 6″ S. con.	Chapman
380.	H.	—Kenwood park, west side, midway, 6″.	Chapman
381.	H.	—Kenwood park, S. W. corner Dickinson, 6″.	Chapman
382.	H.	—Johnson street end of pipe.	Perkins
383.	H	—Johnson street, 6″.	Chapman
384.	H.	—Oakland street, N. W. corner Dickinson.	Chapman
385.	H.	—Hall street, N. W. corner Dickinson.	Chapman
386.	H.	—Hall street, west side, midway.	Chapman
387.	H.	—N. E. corner Belmont avenue and Hall street.	Chapman
388.	H.	—Forest street, east side.	Chapman
389.	H.	—N. E. corner Belmont avenue and Keith street.	Chapman
390.	H.	—Keith street, north side, front of No. 51.	Chapman
391.	H.	—N. W. corner Keith and Dickinson streets.	Chapman
392.	H.	—Euclid avenue, N. W. corner Dickinson street.	Chapman
393.	H.	—Euclid avenue, north side, midway.	Chapman
394.	H.	—Marengo avenue, N. W. corner Dickinson street, 6″ S. con.	Chapman
395.	H.	—Marengo avenue, at Swan (proposed street), 6″ S. con.	Chapman
396.	H.	—LaVerne avenue, S. E. corner Bellevue.	Perkins
397.	H.	—Kenwood avenue (proposed street), S. E. corner Bellevue.	Chapman
398.	H.	—Bellevue ave., S. W. corner Dickinson street.	Chapman
399.	H.	—Belmont avenue, east side, opposite No. 134.	Chapman
400.	H.	—Belmont avenue, east side, north of Euclid.	Chapman
401.	H.	—Woodside ave, 6″ S. con.	Chapman
402.	H.	—Park avenue, N. E. corner Fort Pleasant.	Chapman
403.	H.	—Belmont avenue, west side, at Fort Pleasant.	Chapman
404.	H.	—Mill street, south side, midway Locust and Main.	Matthews
405.	H.	—Mill street, north side, opposite Howard's waste mill.	Perkins
406.	H.	—Pine street, north side, at Mill.	Perkins

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No.	High or Low.	Location.	Make.
407.	H.	Warriner avenue, north side, end of pipe.	Chapman
408.	L.	Main street, east side at Locust.	Matthews
409.	H.	Main street, N. E. corner Acushnet avenue, 6″.	Chapman
410.	L.	Acushnet avenue, north side, midway.	Chapman
411.	L.	Acushnet avenue, north side, end of pipe.	Chapman
412.	H.	Main street, N. E. corner Rutledge avenue, 6″.	Chapman
413.	L.	Rutledge avenue, north side, midway.	Perkins
414.	L.	Wendell avenue, 6″ S. con.	Chapman
415.	H.	Main street, east side, opposite Broad, 6″.	Chapman
416.	H.	Main street, N. E. corner Marble, 6″.	Chapman
417.	L.	Marble street, N. E. corner Main, 6″.	Chapman
418.	L.	Marble street, north side, midway, 6″.	Chapman
419.	L.	Marble street, north side, end of pipe, 6″.	Chapman
420.	H.	Main street, east side, opposite Gardner, 6″.	Chapman
421.	L.	Main street, east side, opposite Gardner.	Perkins
422.	H.	Main street east side, front of No. 739, 6″.	Chapman
423.	H.	Main street, east side, opposite Lombard, 6″.	Chapman
424.	H.	Main street, S. E. corner Adams, 6″.	Chapman
425.	L.	Adams street, south side, midway.	Chapman
426.	L.	Ashmun street, east side, opposite Adams.	Chapman
427.	L.	Central street, north side, opposite No. 63, 6″ S. con.	Chapman
428.	H.	N. E. corner Main and Central streets.	Chapman
429.	H.	N. E. corner Main and Morris streets.	Chapman
430.	L.	Morris street, north side, opposite No. 40.	Chapman
431.	L.	Morris street, east side, at angle.	Chapman
432.	L.	Winthrop street, north side, midway.	Chapman
433.	H.	N. E. corner Main and Winthrop streets.	Chapman
434.	H.	N. E. corner Main and William streets.	Chapman
435.	H.	William street, south side, midway Main and Dale.	Chapman
436.	L.	N. W. corner William and Dale streets.	Chapman
437.	H.	N. E. corner Willow street and Hubbard avenue.	Perkins
438.	H.	S. E. corner Main street and Hubbard avenue.	Chapman
439.	H.	N. E. corner Main and Union streets.	Chapman
440.	H.	N. E. corner Union and Willow streets.	Perkins
441.	L.	S. E. corner Union and Dale streets.	Chapman
442.	H.	S. W. corner Park and Willow streets.	Perkins
443.	H.	N. E. corner Main and Park streets.	Chapman
444.	H.	S. E. corner Main and Cross streets.	Chapman
445.	H.	N. E. corner Willow and Cross streets, 6″ S. con.	Chapman

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No.	High or Low.	Location.	Make.
446.	H.	Cross street, south side, midway Maple and Willow.	Chapman
447.	H.	S. E. corner Main street and Crossett avenue.	Chapman
448.	H.	S. E. corner Main and Stockbridge streets.	Chapman
449.	L.	Stockbridge street, S. W. corner Willow, 6″ S. con.	Chapman
450.	H.	N. E. corner Willow and Stockbridge streets, 6″ S. con.	Chapman
451.	H.	Stockbridge street, south side, just west of Smith & Wesson's shop.	Perkins
452.	H.	Stockbridge street, south side, just east of Smith & Wesson's shop.	Perkins
453.	H.	S. E. corner State and Willow streets.	Perkins
454.	L.	State street, S. W. corner Willow, 6″ S. con.	Chapman
455.	H.	N. E. corner State and Dwight streets.	Chapman
456.	L.	N. W. corner State and Dwight streets.	Chapman
457.	H.	N. W. corner State and Market streets.	Chapman
458.	H.	N. E. corner State and Main streets, 6″ S. con.	Chapman
459.	H.	N. E. corner Main and Sanford streets, 6″ S. con.	Chapman
460.	L.	S. W. corner Market and Sanford streets.	Chapman
461.	L.	Sanford street, north side, midway Market and Dwight.	Chapman
462.	H.	Sanford street, north side, near Dwight.	Perkins
463.	H.	Sanford street, N. E. corner Market, 6″ S. con.	Chapman
464.	L.	S. W. corner Dwight and East Court streets.	Chapman
465.	H.	N. W. corner Dwight and East Court streets.	Perkins
466.	L.	Dwight street, S. W. corner New, 6″ S. con.	Chapman
467.	H.	N. W. corner East Court and New streets.	Chapman
468.	H.	S. W. corner East Court and Market streets.	Chapman
469.	H.	S. E. corner Main and East Court streets.	Matthews
470.	H.	Main street, east side, front of No. 445, 6″ S. con.	Chapman
471.	H.	Main street, east side, front of No. 415, 6″ S. con.	Chapman
472.	H.	N. E. corner Main street and Townsley avenue.	Matthews
473.	H.	Main street, east side, opposite Pynchon.	Matthews
474.	H.	N. W. corner Market street and Townsley avenue.	Chapman
475.	L.	S. W. corner Harrison avenue and Market street.	Chapman
476.	H.	S. E. corner Main street and Harrison avenue.	Chapman
477.	H.	Main street, east side, opposite Vernon.	Matthews
478.	H.	Harrison avenue, N. E. corner Main street, 6″.	Perkins
479.	H.	Harrison avenue, north side, opposite Market street, 6″.	Chapman
480.	H.	Harrison avenue, north side, front of No. 44, 6″.	Perkins

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No.	High or Low.	Location.	Make.
481.	H.	Harrison avenue, south side, front of No. 37, 6″.	Perkins
482.	H.	Harrison avenue, N. W. corner Dwight street, 6″.	Chapman
483.	L.	S. W. corner Harrison avenue and Dwight street.	Chapman
484.	H.	N. E. corner Harrison avenue and Dwight street.	Perkins
485.	H.	Dwight street, front of No. 109, 6″ S. con.	Chapman
486.	L.	S. W. corner Dwight and Hillman streets.	Chapman
487.	H.	N. W. corner Dwight and Hillman streets.	Chapman
488.	H.	Hillman street, N. W. corner Barnes, 6″ S. con.	Chapman
489.	H.	Hillman street, south side, midway.	Chapman
490.	H.	N. E. corner Main and Hillman streets, 6″ S. con.	Chapman
491.	H.	N. E. corner Main and Bridge streets.	Chapman
492.	L.	Bridge street, S. E. corner Barnes, 6″ S. con.	Chapman
493.	L.	Bridge street, north side, at Stearns park.	Chapman
494.	L.	Dwight street, S. W. corner Bridge, 6″ S. con.	Chapman
495.	H.	N. E. corner Bridge and Dwight streets, 6″ S. con.	Chapman
496.	L.	S. E. corner Worthington and Dwight streets, 6″ S. con.	Chapman
497.	H.	N. W. corner Worthington and Dwight streets.	Chapman
498.	H.	S. E. corner Worthington street and Stearns avenue.	Chapman
499.	L.	Worthington street, south side, front of No. 99.	Chapman
500.	H.	N. E. corner Main and Worthington streets.	Chapman
501.	H.	Main street, east side, opposite Fort.	Chapman
502.	H.	N. E. corner Main and Taylor streets.	Matthews
503.	H.	Taylor street, south side, front of No. 23.	Matthews
504.	H.	Taylor street, north side, opposite No. 51.	Matthews
505.	H.	N. E. corner Taylor and Dwight streets.	Perkins
506.	H.	Taylor street, north side, front of No. 96, 6″ S. con.	Chapman
507.	H.	S. E. corner Lyman and Dwight streets.	Perkins
508.	L.	Lyman street, north side, opposite Dwight.	Chapman
509.	H.	Lyman street, south side, front of No. 53.	Perkins
510.	L.	Lyman street, north side, opposite Nos. 39-43.	Chapman
511.	H.	Lyman street, north side, opposite Nos. 27-31.	Perkins
512.	H.	N. E. corner Main and Lyman streets.	Matthews
513.	L.	Lyman street, S. E. corner Main, 6″ S. con.	Chapman
514.	H.	Main street, east side, opposite Hampden, 6″ S. con.	Chapman
515.	H.	Main street, east side, just south of arch.	Chapman
516.	H.	N. E. corner Chestnut and Lyman streets.	Chapman
517.	H.	Chestnut street, S. W. corner Lyman, 6″.	Chapman

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No.	High or Low.	Location.	Make.
518.	H.	Lyman street, north side, midway Spring and Chestnut.	Chapman
519.	L.	S. E. corner Chestnut and Lyman streets.	Perkins
520.	H.	N. E. corner Chestnut and Taylor streets.	Chapman
521.	L.	Chestnut street, east side, opposite Taylor, 6″ S. con.	Chapman
522.	H.	N. W. corner Chestnut and Taylor streets.	Chapman
523.	H.	N. E. corner Chestnut and Worthington streets.	Chapman
524.	L.	S. W. corner Chestnut and Worthington streets.	Chapman
525.	H.	Chestnut street, S. W. corner Worthington, 6″.	Chapman
526.	L.	Chestnut street, east side, near Bridge.	Chapman
527.	H.	Chestnut street, N. W. corner Bridge, 6″.	Chapman
528.	L.	S. E. corner Chestnut and Pearl streets.	Chapman
529.	H.	Chestnut street, west side, opposite Pearl, 6″.	Chapman
530.	H.	Chestnut street, west side, opposite Mattoon, 6″.	Chapman
531.	H.	Chestnut street, N. W. corner Harrison avenue, 6″.	Chapman
532.	H.	Chestnut street, west side, opposite Edwards, 6″.	Chapman
533.	L	Edwards street, north side, opposite No. 37.	Perkins
534.	L.	Chestnut street, west side, opposite No. 55.	Chapman
535.	H.	Chestnut street, west side, opposite No. 49, 6″.	Chapman
536.	H	Chestnut street, west side, opposite Christ church.	Perkins
537.	H.	N. E. corner State and Chestnut streets, 6″ S. con.	Chapman
538.	H.	State street, north side, near City Library.	Perkins
539.	H.	State street, north side, at Cathedral, 6″ S. con.	Chapman
540.	H.	N. W. corner State and Elliott streets.	Matthews
541.	L.	Elliott street, west side, front of convent.	Chapman
542.	H	N. W. corner State and Spring streets.	Matthews
543.	H.	N. E. corner Spring and Frost streets.	Chapman
544.	L.	S. W. corner Spring and Salem streets.	Ayers
545.	H.	Spring street, east side, opposite Salem, 6″.	Perkins
546.	L	S. E. corner Salem and Elliott streets.	Ayers
547.	H.	Salem street, north side, opposite Elliott.	Chapman
548.	L.	Pearl street, north side, opposite Salem, 6″ S. con.	Chapman
549.	H.	S. E. corner Pearl and Spring.	Chapman
550.	H.	Pearl street, north side, at Byers.	Chapman
551.	H.	Pearl street, north side, at angle.	Chapman
552.	H.	Pearl street, north side, front of No. 242.	Brown
553.	H	N. W. corner Pearl and Federal streets.	Chapman
554.	H.	N. E. corner Worthington and Federal streets.	Perkins
555.	H.	Worthington street, north side, opposite No. 485.	Chapman
556.	H	N. E. corner Worthington street and Kibbe avenue.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
557.	H.	Worthington street, north side, opposite Sackett avenue.	Chapman
558.	L.	S. W. corner Worthington street and Sackett avenue.	Perkins
559.	H.	Worthington street, north side, opposite No. 377.	Chapman
560.	H.	N. E. corner Worthington and Autumn streets.	Chapman
561.	H.	Worthington street, north side, opposite school-house.	Chapman
562.	L.	S. W. corner Worthington and Spring streets.	Ayers
563.	H.	N. E. corner Worthington and Spring streets.	Chapman
564.	H.	N. E. corner Worthington and Alert streets.	Chapman
565.	H.	N. E. corner Spring and Summer streets.	Chapman
566.	L.	Lyman street, south side, front of Gilbert & Barker's shop.	Chapman
567.	H.	Lyman street, north side at Spring.	Chapman
568.	H.	Summer street, north side, opposite Autumn.	Perkins
569.	L.	Summer street, south side, front of No. 103.	Perkins
570.	L.	Summer street, south side, front of No. 147.	Perkins
571.	H.	Summer street, S. E. corner Kibbe avenue, 6″.	Chapman
572.	H.	Summer street, S. W. corner Federal, 6″.	Chapman
573.	H.	Armory street, north of B. & A. R. R., 6″ S. con.	Chapman
574.	H.	Armory street, east side, at paint shops.	Chapman
575.	H.	Worthington street, N. W. corner Armory, 6″ S. con.	Chapman
576.	H.	N. E. corner Armory and Grant streets.	Chapman
577.	H.	Federal street, west side, at Armory gate.	Matthews
578.	H.	N. E. corner Federal and Lincoln streets.	Perkins
579.	H.	Lincoln street, N. W. corner Magazine, S. con.	Chapman
580.	H.	N. W. corner Magazine and Grant streets.	Chapman
581.	H.	S. E. corner Armory and Magazine streets.	Chapman
582.	H.	Worthington street, south side, midway Armory and Bowdoin, 6″ S. con.	Chapman
583.	H.	S. E. corner Worthington and Bowdoin streets.	Perkins
584.	H.	S. E. corner Bowdoin street and Ingersoll grove.	Chapman
585.	H.	Ingersoll grove, east side, at angle.	Chapman
586.	H.	S. W. corner Florida and Worthington streets.	Matthews
587.	H.	S. E. corner Worthington and Thompson streets.	Chapman
588.	H.	Thompson street, east side, midway St. James avenue and Worthington street.	Chapman
589.	H.	Dartmouth terrace, east side, front of No. 45.	Chapman
590.	H.	S. W. corner Harvard street and St. James avenue.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
591.	H.	—S. E. corner Harvard and Cornell streets.	Chapman
592.	H.	—S. E. corner Cornell and Wellesley streets.	Chapman
593.	H.	—S E. corner Cornell and Princeton streets.	Chapman
594.	H.	—S. W. corner St. James avenue and Princeton street.	Chapman
595.	H	—St. James avenue, north side, opposite Dorchester street.	Chapman
596.	H.	—N. E. corner Dorchester and Truxton streets.	Chapman
597.	H.	—N. W. corner Lafayette and Amherst streets.	Chapman
598.	H.	—N. W. corner Monmouth and Yale streets.	Chapman
599.	H.	—Monmouth street, at Berkeley.	Chapman
600.	H.	—N. W. corner Princeton and Yale streets.	Chapman
601.	H.	—Princeton street, west side, between Vassar and Amherst.	Chapman
602.	H.	—Harvard street, west side, midway St. James avenue and Yale street.	Chapman
603.	H.	—N. E. corner Harvard and Yale streets.	Chapman
604.	H.	—N. E. corner Dartmouth and Yale streets.	Chapman
605.	H.	—Dartmouth street, east side, midway.	Chapman
606.	H.	—S. E. corner Dartmouth street and St. James avenue.	Chapman
607.	H.	—S. E. corner Clarendon street and St. James avenue.	Chapman
608.	H.	—Clarendon street, east side, between Bay street and St. James avenue.	Chapman
609.	H.	—N. W. corner Buckingham and Clarendon streets.	Chapman
610.	H.	—N. E. corner Buckingham street and Buckingham place.	Chapman
611.	H.	—S. E. corner Buckingham and Bay streets.	Chapman
612.	H.	—S. E. corner Bay and Westminster streets.	Ayers
613.	H.	—Westminster street, east side, midway St. James avenue and Bay street.	Chapman
614.	H.	—S. E. corner Westminster street and St. James avenue.	Chapman
615.	H.	—S. E. corner Thompson street and St. James avenue.	Chapman
616.	H.	—S. E. corner Thompson and Bay streets.	Perkins
617.	H.	—S. E. corner Bay and Pleasant streets.	Perkins
618.	H.	—S. W. corner Florida street and St. James avenue.	Matthews
619.	H.	—N. E. corner St. James avenue and Bowdoin street.	Chapman
620.	H.	—N. E. corner State street and St. James avenue.	Perkins

Digitized by Google

No	High or Low.	Location.	Make.
621.	H.	—N. E. corner State and Pleasant streets.	Perkins
622.	H.	—N. E. corner State and Westminster streets.	Perkins
623.	H.	—Buckingham street, east side, front of No. 69.	Chapman
624.	H.	—N. E. corner Sherman and State streets.	Perkins
625.	H.	—S. E. corner Sherman and McKnight streets.	Chapman
626.	H.	—S. E. corner Sherman and Bay streets.	Chapman
627.	H.	—S. E. corner Catherine and Bay streets.	Chapman
628.	H.	—N. E. corner Catherine and McKnight streets.	Chapman
629.	H.	—Catherine street, east side, front of No. 71.	Chapman
630.	H.	—Catherine street, east side, front of No. 37.	Chapman
631.	H.	—State street, south side, at Winchester park engine house.	Chapman
632.	H.	—State street, north side, at N. E. R. R., 6″ S. con.	Chapman
633.	H.	—Chapin street, east side, midway.	Chapman
634.	H.	—Marion street, west side, south end.	Chapman
635.	H.	—N. E. corner Bowles and McKnight streets.	Chapman
636.	H.	—Bowles street, east side, midway Bay and McKnight.	Chapman
637.	H.	—S. E. corner Bowles and Bay streets.	Chapman
638.	H.	—Marion street, east side, midway.	Chapman
639.	H.	—N. W. corner McKnight street and Girard avenue.	Chapman
640.	H.	—S. E. corner Bay street and Girard avenue.	Chapman
641.	H.	—Clifford street, south side, midway.	Chapman
642.	H.	—Bay street, south side, front of No. 401.	Chapman
643.	H.	—Dawes street, west side, midway.	Chapman
644.	H.	—S. E. corner Bay street and Oak Grove avenue.	Chapman
645.	H.	—Cambridge street, east side, front of No. 45.	Chapman
646.	H.	—Cambridge street, east side, opposite No. 84.	Chapman
647.	H.	—Andrew street, east side, midway.	Chapman
648.	H.	—Hayden street, east side, midway.	Perkins
649.	H.	—N. E. corner State and Andrew streets.	Perkins
650.	H.	—Montrose street, east side, midway, 6″.	Chapman
651.	H.	—Mapledell street, N. E. corner State, 6″ S. con.	Chapman
652.	H.	—Mapledell street, S. E. corner Burr, S. con.	Chapman
653.	H.	—Oak Grove avenue, west side, end of pipe, 6″ S. con.	Chapman
654.	H.	—College avenue, S. E. corner Shattuck street.	Chapman
655.	H.	—College avenue, east side, midway.	Chapman
656.	H.	—State street, north side, opposite No. 1029.	Chapman
657.	H.	—Maynard avenue, west side, near State street.	Chapman
658.	H.	—Willard avenue, west side, near Shattuck street.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
659.	H.	Cortland street, west side, midway.	Chapman
660.	H.	Dresden avenue, east side, midway, 6″ S. con.	Chapman
661.	H.	State street, north side, front of 1090.	Chapman
662.	H.	State street, north side, west of Carlisle brook.	Chapman
663.	H.	S. E. corner State and Benton streets.	Chapman
664.	H.	State street, north side, front of Alden Warner's.	Chapman
665.	H.	Boston road, north side, near Jasper street, 6″ S. con.	Chapman
666.	H.	Coleman street, east side, end of pipe, 6″ S. con.	Chapman
667.	H.	Benton avenue, N. E. corner Benton street, 6″ S. con.	Chapman
668.	H.	Benton street, N. E. corner Wilbraham road, 6″ S. con.	Chapman
669.	H.	Wilbraham road, end of pipe, 6″ S. con.	Chapman
670.	H.	Carlisle avenue, N. E. corner Wilbraham road, 6″ S. con.	Chapman
671.	H.	Norfolk street, S. E. corner Wilbraham road.	Chapman
672.	H.	Norfolk street, east side, end of pipe.	Chapman
673.	H.	Suffolk street, east side, end of pipe.	Chapman
674.	H.	Middlesex street, corner Wilbraham road.	Chapman
675.	H.	Wellington street, east side, end of pipe, 6″ S. con.	Chapman
676.	H.	Reed street, corner Wilbraham road.	Chapman
677.	H.	N. E. corner Wilbraham road and College street.	Chapman
678.	H.	Westford avenue, S. E. corner Wilbraham road, 6″ S. con.	Chapman
679.	H.	Westford avenue, east side, opposite Gunn square, 6″ S. con.	Chapman
680.	H.	King street, N. W. corner Northampton avenue, 6″ S. con.	Chapman
681.	H.	Wilbraham avenue, N. E. corner King street, 6″ S. con.	Chapman
682.	H	Wilbraham avenue, east side, 350 ft. north of King street, 6″ S. con.	Chapman
683.	H.	Wilbraham avenue, east side, opposite National Photo-Paper and Chemical Co.	Perkins
684.	H.	Wilbraham avenue, east side, north of Beverly street.	Chapman
685.	H.	Northampton avenue, east side, end of pipe, 6″ S. con.	Chapman
686.	H.	Northampton avenue, between Nos. 685 and 687.	Chapman
687.	H.	Northampton avenue, east side, midway.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
688.	H.	Northampton avenue, S. E. corner Wilbraham road.	Chapman
689.	H.	Wilbraham avenue, east side, front of No. 25.	Chapman
690.	H.	S. E. corner Waltham avenue and Wilbraham road.	Chapman
691.	H.	S. W. corner Colton street and Wilbraham road.	Chapman
692.	H.	S. W. corner Wilbraham road and Eastern avenue.	Chapman
693.	H.	S. E. corner State and Winchester streets.	Chapman
694.	H.	S. E. corner State and Hancock streets.	Perkins
695.	H.	N. E. corner Monroe and Hancock streets.	Chapman
696.	H.	Monroe street, north side, front of No. 72.	Perkins
697.	H.	N. W. corner Monroe street and Eastern avenue.	Chapman
698.	H.	N. W. corner Monroe and Colton streets.	Chapman
699.	H.	S. W. corner Colton and Union streets.	Chapman
700.	H.	S. W. corner Union and Eastern avenue.	Chapman
701.	H.	Union street, south side, front of No. 709.	Chapman
702.	H.	Union street, south side, front of No. 660.	Chapman
703.	H.	S. E. corner Union and Hancock streets.	Matthews
704.	H.	N. W. corner Hancock and Quincy streets.	Chapman
705.	H.	Quincy street, north side, front of No. 181.	Chapman
706.	H.	Quincy street, north side, front of No. 230.	Chapman
707.	H.	N. W. corner Quincy street and Eastern avenue.	Chapman
708.	H.	N. W. corner Quincy and Colton streets.	Chapman
709.	H.	N. W. corner Tyler and Colton streets.	Chapman
710.	H.	S. W. corner Tyler street and Eastern avenue.	Chapman
711.	H.	Tyler street, north side, front of No. 220.	Chapman
712.	H.	Tyler street, north side, opposite No. 183.	Chapman
713.	H.	N. W. corner Hancock and Tyler streets.	Matthews
714.	H.	N. W. corner Hancock street and Pendleton avenue.	Perkins
715.	H.	Pendleton avenue, north side, opposite No. 163.	Chapman
716.	H.	Pendleton avenue, north side, opposite No. 209.	Chapman
717.	H.	N. W. corner Pendleton and Eastern avenues.	Chapman
718.	H	Beacon street, south side at Colton.	Chapman
719.	H.	King street, N. W. corner Logan.	Chapman
720.	H.	N. W. corner Eastern avenue and King street.	Chapman
721.	H.	King street, north side, front of No. 184.	Chapman
722.	H.	King street, north side, opposite Nelson avenue.	Chapman
723.	H.	N. E. corner King and Hancock streets.	Matthews
724.	H.	N. W. corner Lebanon street and Nelson avenue.	Chapman
725.	H.	N. W. corner Lebanon street and Merrick avenue.	Chapman
726.	H.	Eastern avenue, east side, opposite Lebanon street.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
727.	H.	N. W. corner Granville and Logan streets.	Chapman
728.	H.	N. W. corner Olive and Logan streets.	Chapman
729.	H.	N. W. corner Ladd and Logan streets.	Chapman
730.	H.	Collins street, near N. W. corner Logan.	Chapman
731.	H.	N. W. corner Greene street and Eastern avenue.	Chapman
732.	H.	Greene street, north side, front of No. 88.	Chapman
733.	H.	N. W. corner Greene street and Nelson avenue.	Chapman
734.	H.	N. E. corner Greene and Hancock streets.	Matthews
735.	H.	Alden street, north side, front of No. 24.	Chapman
736.	H.	Alden street, north side, front of No. 86.	Chapman
737.	H.	N. W. corner Alden street and Eastern avenue.	Chapman
738.	H.	Alden street, N. W. corner Logan.	Perkins
739.	H.	Alden street, north side, at Hickory, 6″ S. con.	Chapman
740.	H.	Manhattan street, N. W. corner Eastern avenue.	Chapman
741.	H.	Manhattan street, north side, midway.	Chapman
742.	H.	N. E. corner Manhattan and Walnut streets.	Chapman
743.	H.	Walnut street, east side, opposite No. 396.	Matthews
744.	H.	Eastern avenue, S. W. corner Marshall place, 6″ S. con.	Chapman
745.	H.	Hickory street, north side, opposite Smith & Adams' slaughter-house.	Chapman
746.	H.	Melrose street, N. W. corner Eastern avenue, 5″ S. con.	Chapman
747.	H.	Melrose street, north side, midway, 5″ S. con.	Chapman
748.	H.	N. E. corner Hickory and Walnut streets.	Matthews
749.	H.	Allen street, north side, at White street.	Chapman
750.	H.	Allen street, north side, near chapel.	Chapman
751.	H.	Allen street, north side, opposite No. 228.	Chapman
752.	H.	Allen street, north side, west of N. E. R. R.	Chapman
753.	H.	Allen street, north side, just east of N. E. R. R.	Perkins
754.	H.	Allen street, north side, midway Nos. 753 and 755.	Perkins
755.	H.	Allen street, N. W. corner Plumtree road.	Chapman
756.	H.	White street, west side, 900 feet south of Orange.	Chapman
757.	H.	White street, west side, front of No. 74.	Chapman
758.	H.	White street, west side, opposite chapel.	Chapman
759.	H.	Orange street, south side, 380 feet west of White.	Chapman
760.	H.	Oakland street, west side, opposite No. 46.	Chapman
761.	H.	Highland street, N. W. corner Orange.	Chapman
762.	H.	Noel avenue, N. W. corner Shamrock.	Chapman
763.	H.	Highland street, N. W. corner Shamrock avenue.	Chapman
764.	H.	S. W. corner Highland and Allen streets.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
765.	H.	S. W. corner Mill and Allen streets.	Chapman
766.	H.	N. E. corner Mill and Central streets.	Matthews
767.	H.	S. E. corner Hancock and Central streets.	Matthews
768.	H.	Hancock street, west side, south of Central, at end.	Chapman
769.	H.	Mill street, south side, opposite Maple.	Chapman
770.	H.	Cherry street, north side, just west of No. 92.	Chapman
771.	H.	Cherry street, north side, opposite No. 51.	Chapman
772.	H.	N. W. corner Cherry and Central streets.	Chapman
773.	H.	N. E. corner Spruce and Central streets, 6″ S. con.	Chapman
774.	H.	Spruce street, east side, front of No. 34.	Perkins
775.	H.	Hancock avenue, N. E. corner Spruce street, 6″ S. con.	Chapman
776.	H.	Hancock avenue, north side, midway, S. con.	Chapman
777.	H.	N. W. corner Hancock street and Hancock avenue.	Chapman
778.	H.	N. W. corner Hancock and Hawthorn streets.	Chapman
779.	H.	Hawthorn street, north side, midway.	Chapman
780.	H.	S. W. corner Hancock and Florence streets.	Matthews
781.	H.	S. W. corner Florence and Spruce streets.	Matthews
782.	H.	Beech street, east side, midway.	Chapman
783.	H.	Central street avenue, S. W. corner Central street, 6″ S. con.	Chapman
784.	H.	Foster court, west roadway.	Chapman
785.	H.	Foster court, east roadway.	Chapman
786.	H.	Central street, south side, front of No. 319.	Matthews
787.	H.	N. E. corner Pine and Central streets.	Perkins
788.	H.	N. E. corner Pine and Cedar streets.	Matthews
789.	H.	Ashley street, north side, opposite No. 49.	Chapman
790.	H.	Ashley street, north side, front of No. 92.	Chapman
791.	H.	N. W. corner Ashley and Walnut streets.	Chapman
792.	H.	N. W. corner Cedar and Walnut streets.	Perkins
793.	H.	N. W. corner Lebanon and Hancock streets.	Matthews
794.	H.	Queen street, north side, opposite No. 43.	Chapman
795.	H	N. W. corner Walnut and James streets.	Matthews
796.	H.	James street, west side, midway.	Chapman
797.	H.	King street, north side, midway Hancock and Walnut.	Chapman
798.	H.	S. E. corner Pendleton avenue and Walnut street.	Perkins
799.	H.	N. E. corner Pendleton avenue and Orleans street.	Chapman
800.	H.	N. E. corner Tyler and Orleans streets.	Perkins
801.	H.	Tyler street, north side, front of Blake Mfg. Co's shop.	Perkins

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No.	High or Low.	Location.	Make.
802.	H.	—N. E. corner Quincy and Stebbins streets.	Chapman
803.	H.	—N. W. corner Quincy and Orleans streets.	Chapman
804.	H.	—N. E. corner Quincy and Oak streets.	Perkins
805.	H.	—S. W. corner Oak street and Charter avenue.	Chapman
806.	H.	—N. E. corner Union and Orleans streets.	Perkins
807.	H.	—N. W. corner Union and Stebbins streets.	Perkins
808.	H.	—Terrence street, east side, midway.	Matthews
809.	H.	—S. E. corner State and Orleans streets.	Matthews
810.	H.	—Lillian street, north side, opposite No. 17.	Chapman
811.	H.	—State street, north side, midway Benton park.	Perkins
812.	H.	—S. E. corner State and Walnut streets, 6″ S. con.	Chapman
813.	H.	—N. E. corner Walnut street and Charter avenue.	Perkins
814.	H.	—State street, north side, opposite Woodworth avenue, 6″ S. con.	Chapman
815.	H.	—State street, north side, near Olivet church.	Matthews
816.	H.	—S. W. corner High street and Ingraham avenue.	Perkins
817.	H.	—Union street, north side, opposite Mulberry.	Perkins
818.	H.	—S. W. corner Walnut and Union streets.	Perkins
819.	H.	—Walnut street, east side, at Oak street.	Perkins
820.	H.	—Pine street, east side, opposite No. 55.	Chapman
821.	H.	—Pine street, east side, opposite No. 109.	Chapman
822.	H.	—Madison avenue, east side, north end.	Chapman
823.	H.	—Central street, at Stearns terrace, 6″.	Chapman
824.	H.	—S. E. corner Central and Cedar streets.	Matthews
825.	H.	—Pine street, north side, opposite No. 239.	Perkins
826.	H.	—N. W. corner Maple and Pine streets, 6″.	Perkins
827.	H.	—Maple avenue, 350 feet east of Maple street, 6″.	Chapman
828.	H.	—Maple street, east side, front of Mrs. S. J. Gordon's.	Matthews
829.	H.	—Central street, north side, east of Maple street.	Matthews
830.	H.	—N. E. corner Maple street and Avon place.	Chapman
831.	H.	—Avon place, north side, midway.	Chapman
832.	L.	—Maple street, west side, front of No. 140, 6″ S. con.	Chapman
833.	H.	—S. E. corner Maple and Mulberry streets.	Chapman
834.	H.	—N. E. corner School and Mulberry streets.	Perkins
835.	H.	—Ridgewood place, N. W. corner Mulberry street.	Chapman
836.	H.	—Ridgewood place, S. W. corner Union street.	Chapman
837.	H.	—N. E. corner Union and School streets.	Perkins
838.	H.	—N. E. corner Union and Maple streets.	Chapman
839.	L.	—Maple street, front of No. 104, 6″ S. con.	Chapman

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No.	High or Low.	Location.	Make.
840.	L.	Maple street, S. W. corner Park, 6″ S. con.	Chapman
841.	H.	Maple street, west side, opposite High.	Chapman
842.	H.	High street, south side, opposite No. 36, 6″ S. con.	Chapman
843.	H.	S. W. corner Maple and Stockbridge streets.	Perkins
844.	H.	S. E. corner Maple and Temple streets.	Chapman
845.	L.	S. E. corner Maple and Temple streets, 6″ S. con.	Chapman
846.	H.	Temple street, south side, front of No. 46.	Chapman
847.	H.	S. W. corner School and Temple streets.	Chapman
848.	H.	N. E. corner High and School streets.	Perkins
849.	H.	Myrtle street, east side, midway.	Perkins
850.	H.	State street, south side, front of No. 345.	Perkins
851.	L.	State street, south side, at High school, 6″ S. con.	Chapman
852.	L.	State street, south side, at Unity church, 6″ S. con.	Chapman

INDIAN ORCHARD.

1.	H.	N. E. corner Berkshire and Chestnut streets.	Perkins
2.	H.	Hampden street, S. E. corner Chestnut.	Chapman
3.	H.	S. E. corner Hampden and Myrtle streets.	Perkins
4.	H.	S. W. corner Hampden and Oak streets.	Chapman
5.	H.	S. W. corner Worcester and Oak streets.	Chapman
6.	H.	Worcester street, at engine-house, 6″.	Chapman
7.	H.	S. W. corner Worcester and Myrtle streets.	Perkins
8.	H.	S. W. corner Chestnut and Worcester streets.	Chapman
9.	H	Main street, north side, west end of park.	Perkins
10.	H.	N. W. corner Main and Myrtle streets.	Perkins
11.	H.	Main street, midway Oak and Myrtle, 6″.	Chapman
12.	H.	N. E. corner Main and Oak streets.	Chapman
13.	H.	S. E. corner Water and Oak streets.	Chapman
14.	H.	S. W. corner Main and Pine streets.	Perkins
15.	H.	N. W. corner Worcester and Pine streets.	Chapman
16.	H.	S. W. corner Water and Cedar streets.	Chapman
17.	H.	N. W. corner Main and Cedar streets.	Perkins
18.	H.	Main street, 600 feet east of Cedar.	Chapman
19.	H.	Main street, front of Trombley's, 6″.	Chapman
20.	H.	Milton street, S. E. corner Main, 6″.	Chapman
21.	H.	Beaudry street, S. E. corner Main, 6″.	Chapman
22.	H.	Main street, near Wilbraham line.	Chapman
23.	H.	Parker street, S. W. corner Main.	Chapman
24.	H.	Parker street, west side, 1,200 feet south of Main.	Chapman
25.	H.	Parker street, near schoolhouse, 6″.	Chapman

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No.	High or Low.	Location.	Make.
26.	H.	Parker street, midway schoolhouse and Oak street, 6″.	Chapman
27.	H.	Parker street, south of railroad.	Chapman
28.	H.	Oak street, near railroad station, 6″.	Chapman
29.	H.	Oak street, east side, at No. 227, 6″.	Chapman
30.	H.	Oak street, east side, at No. 194.	Chapman
31.	H.	Oak street, between No. 30 and No. 31.	Chapman
32.	H.	Oak street, west side, south of Essex.	Chapman
33.	H.	Pasco street, S. E. corner Essex, 6″.	Chapman
34.	H.	Pasco street, east side, end of pipe.	Chapman
35.	H.	Pine street, at Chapman Valve works.	Chapman
36.	H.	N. W. corner Hampshire and Pine streets.	Chapman
37.	H.	N. E. corner Hampshire and Oak streets.	Chapman
38.	H.	Berkshire street, north side, west of Oak.	Chapman
39.	H.	N. W. corner Hampshire and Myrtle streets.	Chapman
40.	H.	N. E. corner Berkshire and Myrtle streets.	Perkins

FIRE RESERVOIRS

CONNECTED WITH THE WORKS.

Bridge street, at Main,	1
Central street, opposite Beech,	1
Elm street, at First church,	1
Hampden street, at Main,	1
Howard street, at Main,	1
Lyman street, at Dwight,	1
Main street, at Court square,	1
Main street, at State,	1
Maple street, at Central,	1
Pine street, at Central,	1
Pynchon street, near Water,	1
State street, near Elliott,	1
Walnut street, at Hancock,	1
Water street, opposite Walker,	1
Total,	14

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STREET WATERING HYDRANTS

CONNECTED WITH THE WORKS.

Crane Hydrants—For Cart Sprinklers.

No.	Location.	Service.
1.	Water street, at Worthington,	Low
2.	Cypress street, at Main,	High
3.	Main street, at Hooker school,	High
4.	Fulton street, near Auburn,	Low
5.	North Main street, near Carew,	High
6.	Plainfield street, near John,	Low
7.	North Main street, at Arch,	High
8.	North Main street, near Grace,	Low
9.	Chestnut street, at Montmorenci,	Low
10.	North street, at Osgood,	Low
11.	Carew street, at brickyard,	High
12.	Chestnut street, opposite Patton,	Low
13.	Linden street, near Cass,	Low
14.	Chestnut street, near Franklin,	Low
15.	Liberty street, at No. 385.	High
16.	Armory street, at Liberty,	High
17.	Magazine street, at Armory,	High
18.	Armory street, at Grant,	High
19.	Worthington street, at Kibbe avenue,	High
20.	Worthington street, opposite Autumn,	High
21.	Spring street, near Worthington,	High
22.	Byers street, near Pearl,	High
23.	Dwight street, near Taylor,	High
24.	Dwight street, near Hillman,	High
25.	Sanford street, near Dwight,	Low
26.	Chestnut street, at Edwards,	High
27.	State street, at Byers,	High
28.	State street, at Federal,	High
29.	St. James avenue, at Bay street,	High
30.	Worthington street, at Florida,	High
31.	Worthington street, at Thompson park,	High
32.	St. James avenue, at Princeton,	High
33.	Amherst street, at Princeton,	High
34.	Bay street, at Marion,	High
35.	Bay street, near Buckingham,	High

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No.	Location.	Service.
36.	Hancock street, at State,	High
37.	State street, at Mapledell,	High
38.	State street, at Willard avenue,	High
39.	Wilbraham road, near Northampton avenue,	High
40.	Wilbraham road, at engine-house,	High
41.	Monroe street, at Eastern avenue,	High
42.	Eastern avenue, at King street,	High
43.	Eastern avenue, at Alden street,	High
44.	Walnut street, opposite Manhattan,	High
45.	Alden street, at Hancock,	High
46.	King street, at Hancock,	High
47.	Quincy street, at Hancock,	High
48.	Walnut street, at Queen,	High
49.	Pine street, at cemetery gate,	High
50.	Oak street, at Walnut,	High
51.	Union street, at Mulberry,	High
52.	Mulberry street, at Ridgewood place,	High
53.	Maple street, at Central,	High
54.	Pine street, at Central,	High
55.	Pine street, at Maple,	High
56.	Central street, at Spruce,	High
57.	Allen street, at Mill,	High
58.	Euclid avenue, at Dickinson street,	High
59.	Belmont avenue, at Euclid,	High
60.	Sumner avenue, at Forest park,	High
61.	Sumner avenue, near Jackson street,	High
62.	Sumner avenue, near Fort Pleasant,	High
63.	Fort Pleasant avenue, near Crescent terrace,	High
64.	Locust street, at Mill,	High
65.	Pine street, at Mill,	High
66.	South street, at Mill river,	High
67.	Main street, at Locust,	High
68.	Adams street, at Main,	Low
69.	Loring street, at Water,	High
70.	Park street, at Willow,	High
71.	Howard street, at Water,	Low
72.	Water street, at Court,	Low

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Track Hydrants—For Car Sprinklers.

No.	Location.	Service.
1.	Bradford street, at Plainfield,	Low
2.	Hooker street, at North Main,	High
3.	Wason avenue, at North Main street,	Low
4.	Montmorenci street, at Chestnut,	Low
5.	Liberty street, at Charles,	High
6.	Liberty street, at Armory,	High
7.	Worthington street, east of Federal,	High
8.	Amherst street, at Princeton,	High
9.	Catherine street, at Bowles,	High
10.	College street, at State,	High
11.	St. James avenue, at Bay street,	High
12.	High street, at Walnut,	High
13.	King street, near Eastern avenue,	High
14.	Mill street, opposite Lincoln hall,	High
15.	Sumner avenue, opposite car barn,	High
16.	Fort Pleasant avenue, at Crescent terrace,	High
17.	Main street, at Norwood,	Low
18.	Maple street, at Park,	High
19.	Elm street, at Court square,	High

WATERING TANKS AND DRINKING FOUNTAINS

CONNECTED WITH THE WORKS.

Bradford street, at Plainfield,	1	
Court street, at Court square,	1	
Liberty street, at Armory,	1	
Main street, at Mill,	1	
Main street, Indian Orchard, at Oak,	1	
Mill street, at Watershops,	1	
State street, at Federal,	1	
State street, at Winchester park,	1	
State street, at Indian Orchard road—opposite Catholic cemetery,	1	
Water street, at Court,	1	
Worthington street, east of Dwight,	1	
Total,		11

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PUBLIC PARKS AND FOUNTAINS

CONNECTED WITH THE WORKS.

Benton park, State street, between Federal and Magazine,	1	
Calhoun park, Chestnut street, between Calhoun and Jefferson avenue (no fountain), . . .	1	
Clarendon park, Clarendon street, at Bay, . .	1	
Dartmouth park, Dartmouth street, at Bay, . .	1	
Forest park, Sumner avenue (no fountain), . .	1	
Kibbe park, Federal street, at Armory, . . .	1	
Magnolia terrace park, Magnolia terrace, (north half), .	1	
McKnight park, Buckingham street, at Bay, . .	1	
Mill street park, Mill street, at Pine, . . .	1	
Stearns park, between Bridge and Worthington streets, .	1	
Thompson park, St. James avenue, at Worthington street,	1	
Winchester park, State street, at Wilbraham road (no fountain), ...	1	
Total, ...		12

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TWENTY-FIFTH

ANNUAL REPORT

Water Commissioners

SPRINGFIELD, MASS.

1898

VIIL A

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City of Springfield.

TWENTY-FIFTH ANNUAL REPORT

OF THE

COMPLIMENTS OF

BOARD OF WATER COMMISSIONERS,

Springfield, Mass.

C. L. GOODHUE, Chairman.
D. O. GILMORE, Mayor.
JAMES F. BIDWELL.
} Commissioners.

A. R. HATHAWAY, Clerk and Registrar.
J. C. HANCOCK, Superintendent.

☞ Please Exchange.

PRESS OF
SPRINGFIELD PRINTING AND BINDING CO.
SPRINGFIELD, MASS.
1899.

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City of Springfield.

TWENTY-FIFTH ANNUAL REPORT

OF THE

Board of Water Commissioners

TO

THE CITY COUNCIL,

TOGETHER WITH THE

REPORTS OF THE REGISTRAR AND SUPERINTENDENT

FOR THE YEAR 1898.

PRESS OF
SPRINGFIELD PRINTING AND BINDING CO.
SPRINGFIELD, MASS.
1899.

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THE NEW YORK
PUBLIC LIBRARY
1917
ASTOR, LENOX AND
TILDEN FOUNDATIONS

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WATER COMMISSIONERS' REPORT.

WATER COMMISSIONERS' OFFICE,
43 BRIDGE STREET.

SPRINGFIELD, MASS., December 28, 1898.

To the City Council of the City of Springfield: —

The Board of Water Commissioners herewith submit for your consideration their twenty-fifth annual report for the fiscal year ending December 10, 1898, including the reports of the Water Registrar and Superintendent to the Board.

LUDLOW SUPPLY.

The most important matter we have to consider is the continued growth of algæ in the Ludlow reservoir.

While we have been almost entirely supplied from other sources during the past season, yet we feel that the time has arrived when some method should be devised to remedy this difficulty.

For several years past we have given the matter much thought and study, as has also the State Board of Health.

Early in the coming season we shall empty the large Ludlow basin and then the amount of objectionable material on the bottom of the reservoir can be measured and computed in cubic yards, and a close estimate of the cost of removing the same can be made.

At that time the State Board of Health will make a chemical analysis of the earth underlying the reservoir and also

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make such other examinations as they will then be enabled to make, and submit to us their report thereon.

We shall also employ some other experts who have had experience in the treatment of similar matters, and the reports received, together with such suggestions and recommendations as we then may make, will be submitted to your honorable body for consideration.

We intend to make a thorough investigation of the subject and to cover the entire ground; the cleaning out of all the objectionable matter and the cost of the same, also including the question of filtration.

We have selected a source for an auxiliary supply by which the city can be protected while the reservoir is empty, and we are now arranging for the necessary pumps and appurtenances for the same.

The total expense of this auxiliary supply will not exceed twelve thousand dollars, and we think it well worth this sum as an available supply for any future contingency.

Without such additional provision we should not dare to draw off the water in the reservoir; and until the reservoir is emptied any estimate of cleaning the bed of same would be *pure guess work!*

CONSTRUCTION.

The amount charged to this account during the past year was $17,208.94, of which the sum of $16,042.36 was for extending the distribution mains 28,810 feet, making a present total of 140.08 miles of pipe in the water works system.

It will be seen by the following table that the extensions of our distributing system have averaged more than five miles per year for the past seven years, showing the rapid and steady growth of the city.

We have reason to believe that this demand will continue, and we consider it a wise expenditure of money in this direction.

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No such extensions have been made that do not return in water rates a good interest on the money invested, besides increasing the valuation of outlying property and furnishing fire protection to the same.

STATEMENT.

(*Feet totals are taken from annual tables in Supt's report.*)

Extensions in 1890,	were	9,962	feet	cost $7,833.06
" " 1891,	"	14,927	"	" 10,396.00
" " 1892,	"	24,853	"	" 16,253.21
" " 1893,	"	25,079	"	" 17,090.71
" " 1894,	"	20,280	"	" 13,491.16
" " 1895,	"	32,368	"	" 25,302.47
" " 1896,	"	23,521	"	" 21,018.62
" " 1897,	"	39,108	"	" 22,349.41
" " 1898,	"	28,810	"	" 16,042.36

MAINTENANCE.

The total amount charged to maintenance during the year was $121,043.13, distributed to the following accounts: —

GENERAL MAINTENANCE.

Management and repairs (operating, etc.),	$21,631.68	
Interest on bonds,	92,500.00	
Taxes on reservoir property,	222.69	
		$114,354.37

SPECIAL MAINTENANCE.

Engineering (mapping),	$171.92	
Damages (from broken mains),	258.00	
Pumping station, Chapin pond (operating),	901.89	
Distribution mains — renewals,	5,545.15	
		6,876.96
Total.		$121,231.33

The foregoing special expense of $5,545.15 for "distribution mains — renewals" covers the replacing of quite a number of the

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most troublesome cement-lined mains with cast-iron pipe in some sixteen streets in the older portion of the city, as shown in detail in the Registrar's report.

There is now in use but a very small amount of the pipe originally purchased from the Springfield Aqueduct Company twenty-six years ago, and the annual expense for replacing this pipe is rapidly decreasing.

The continued wet season of the past year did not give us the needed opportunity for placing in position the thirty inch pipe which was purchased in 1897 for an auxiliary crossing at the Chicopee river in the line of Ludlow Main No. 2, but this matter will be attended to at the first stage of low water.

The net addition to the number of service connections during the past year is 349, making a total of 9,070 connected to the system.

The following summary gives the total number and the number added each year since 1884: —

Year.	Total Number.	Net Increase.
1885,	4,237 Service Taps,	224 Taps.
1886,	4,519 " "	282 "
1887,	4,819 " "	300 "
1888,	5,147 " "	328 "
1889,	5,497 " "	350 "
1890,	5,770 " "	273 "
1891,	6,181 " "	411 "
1892,	6,633 " "	452 "
1893,	7,000 " "	367 "
1894,	7,482 " "	482 "
1895,	7,900 " "	418 "
1896,	8,298 " "	398 "
1897,	8,721 " "	423 "
1898,	9,070 " "	349 "

FINANCIAL.

The total cash receipts from water rates, services, repairs, sales, etc., amounted to $219,922.00.

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The following statement shows the annual increase since 1885 in the amounts charged and collected for water only.

COMPARATIVE STATEMENT OF WATER RECEIPTS SINCE 1885.

(*On annual basis of twelve months.*)

YEAR.	Water Rates Charged. (*During the year, only.*)		Water Rates Collected *	
	Totals.	Increase.	Totals.	Increase.
1885	$93,421 60	.....	$90,848 05	.....
1886	100,537 77	$7,116 17	97,298 78	$6,450 73
1887	108,140 94	7,603 17	105,451 52	8,152 74
1888	115,146 35	7,005 41	112,581 21	7,129 69
1889	126,220 72	11,074 37	122,541 52	9,960 31
1890**	133,553 28**	7,332 56	129,913 27**	7,371 75
1891	140,604 85	7.051 57	136,985 11	7,071 84
1892	150,515 67	9,910 82	146,349 09	9,363 98
1893	164,894 65	14,378 98	160,936 78	14.587 69
1894	167.376 11	2,481 46	162,769 71	1,832 93
1895	182,357 49	14,981 38	178,421 15	15 651 44
1896	194,069 28	11,711 79	189.373 75	10,952 60
1897	196,818 72	2,749 44	192,132 58†	2,758 83†
1898	209,183 12	12,364 40	201,710 66	9,578 08

The amount of unexpended cash, $69,345.28, which we have been able to turn into the sinking fund at the close of the year, is very gratifying.

The matter of a reduction in water rates has been frequently discussed, with the *wise* result that as yet no change has been made in the schedule of charges.

We shall be compelled to make a large outlay for the purification of the water supply; the pending claims of the mill owners for the diversion of the waters of Jabish brook will have to be met; and for five years to come we shall have to continue paying seven per cent. interest on a large portion of our bonded indebtedness.

This prevents as yet any large reduction in the water rates, but some reduction will be made, however, as soon as it is deemed prudent to do so.

In this connection it should be taken into consideration that we are still owing $875,000 for 7 per cent. bonds and $200,000

* For amounts abated and uncollected see detail in Registrar's report.

** Amounts for 1890 are estimated at $20,000 less than actual totals for that year, which include 15 months water rates, instead of 12, due to change of time in rendering the semi-annual bills.

† Corrected amounts ;— totals printed in 1897 report were erroneous.

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for 6 per cent. bonds that were issued in 1873, 1874, and 1875 to pay for the works of the old Springfield Aqueduct Company and for the introduction of the Ludlow supply.

Of the former property but little now remains besides the Van Horn reservoirs (and the bonded debt), and the value of the Ludlow property is very much depreciated; also, the prospect is that the contemplated expenditures the coming season for improving the quality of the water will require a sum in excess of our earnings, and will therefore give no additions to our sinking fund.

BONDED DEBT.

7 per cent. bonds, falling due as follows: —			
April 1, 1894, to April 1, 1902, $25,000 annually (issued 1873 and 1874),		$225,000 00	
April 1, 1903 (issued 1873 and 1874),		775,000 00	
Total issue of 1873 and 1874,		$1,000,000 00	
Less bonds paid as follows: —			
April 1, 1894,	$25,000 00		
April 1, 1895,	25,000 00		
April 1, 1896,	25,000 00		
April 1, 1897,	25,000 00		
April 1, 1898,	25,000 00		
		125,000 00	
Balance of 7 per cent. bonds outstanding,			$875,000 00
6 per cent. bonds, falling due April 1, 1905 (issued 1875),			200,000 00
3½ per cent. bonds, falling due October 1, 1920 (issued 1890),			125,000 00
4 per cent. bonds, falling due as follows: —			
April 1, 1918 (issued 1893),		$200,000 00	
October 2, 1923 (issued 1893),		150,000 00	
Total issue of 1893,			350,000 00
Net total bonds outstanding,			$1,550,000 00

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SINKING FUND.

Balance in hands of Sinking Fund Commissioners, December 10, 1897,	$232,848 98
Surplus transferred from water works receipts of 1897,	47,647 99
Total for investment to April 1, 1898,	$280,496 97
Less amount paid City Treasurer to meet 7 per cent. bonds, due April 1, 1898,	25,000 00
Total for investment from April 1, 1898,	$255,496 97
Interest on investments during 1898,	8,044 39
Balance in hands of Sinking Fund Commissioners, December 10, 1898,	$263,541 36
Available surplus from water works receipts of 1898,	69,345 28
Total amount available December 10, 1898,	$332,886 64

We regret the action of the City Council in ordering taken from the surplus earnings of the department (the sinking fund) the sum of $25,000.00 for the payment of a like amount of bonds falling due now each year; inasmuch as the public use of water by the city in its corporate capacity, for schools, engine houses, and other municipal buildings, and for drinking fountains, watering tanks, flushing sewers, and fire protection, together with the entire care of all fire hydrants by this department, is well worth $25,000.00 per year.

CLAIMS.

No settlement has been made with the mill owners on the Chicopee river for the diversion of the waters of Jabish brook.

The death of the late Hon. George D. Robinson, who was counsel for the mill owners, has probably been one cause of delay. The matter is in the hands of competent counsel.

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DETAILS.

The details of the finances and condition of same, and the yearly work of the department, are shown in the reports of the Water Registrar and of the Superintendent submitted to the Board, which reports are hereto annexed, and are made a part of the report of the Board to the City Council.

Respectfully submitted,

C. L. GOODHUE,
J. F. BIDWELL,
Board of Water Commissioners.

BOARD OF ALDERMEN, December 28, 1898.

Read, accepted, ordered printed, and sent down for concurrence.

E. A. NEWELL, *Clerk.*

COMMON COUNCIL, December 28, 1898.

Read, and concurred.

W. E. GILBERT, *Clerk.*

Approved, December 28, 1898.

HENRY S. DICKINSON, *Mayor.*

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WATER REGISTRAR'S REPORT.

To the Board of Water Commissioners of the City of Springfield :—

GENTLEMEN :—The following report of the Water Registrar for the fiscal year ending December 10, 1898, is herewith respectfully presented :—

For convenient reference the statements given are separated into three principal divisions, viz. :—

1.— General Financial.
2.— Detail Financial.
3.— Miscellaneous.

1.— GENERAL FINANCIAL STATEMENTS.

CASH ACCOUNT.

(*Exclusive of Ludlow Main No. 2 Fund.*)

To collections paid City Treasurer by City Collector, ...			$219,922 00
By approved bills and pay rolls paid by City Treasurer, as follows :—			
Total pay rolls approved, .	$28,828 48		
Less amounts uncalled for, .	4 42		
Total pay rolls paid, . .	$28,824 06		
Total bills approved and paid, .	29,252 66		
		$58,076 72	
By interest on water bonds paid by City Treasurer, ...		92,500 00	
By balance transferred to sinking fund by City Treasurer, . . .		69,345 28	
			$219,922 00

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LUDLOW MAIN NO. 2 FUND.

To balance in hands of City Treasurer, December 10, 1897, .	$427 27
By approved bills paid by City Treasurer, 1898, . .	35 00
To balance in hands of City Treasurer, December 10, 1898, .	$392 27

The net cost of construction and maintenance during the year has been charged to the following accounts: —

CONSTRUCTION.

Distribution mains — extensions, . .	$16,042 36	
Hydrant extensions, . . .	739 91	
Gates and valves, ...	155 70	
Drinking fountains, . . .	8 81	
Standpipes — for street sprinkling, .	158 40	
Meters — extensions (set and maintained at department's expense), . .	116 28	
Water rights, Jabish brook (expenses on account of pending claims), . .	162 38	
	$17,383 84	
Less amount credited "Services—permanent pavement account," for services assumed and paid for by consumers,	174 90	
Net total (*exclusive of Ludlow Main No. 2*),		$17,208 94
Ludlow Main No. 2 (settlement of disputed claim for damages—paid from special fund), . . .		35 00
Total construction added, . .		$17,243 94

MAINTENANCE.

General: —

Management and repairs, . .	$21,631 68	
Interest, coupons, . . .	92,500 00	
Taxes, ...	222 69	
		$114,354 37

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Brought forward,		$114,354 37
Special: —		
Engineering (mapping),	$171 92	
Damages,	258 00	
Pumping station, Chapin pond — operating,	901 89	
Distribution mains — renewals,	5,545 15	
		6,876 96
Total,		$121,231 33

COST OF WATER WORKS.

Net total cost, December 10, 1897,	$2,066,236 58
Aggregate of construction accounts, 1898,	17,243 94
Net total cost of water works to December 10, 1898,	$2,083,480 52

Divided as follows: —

Balance of *old "Construction" account* in ledger to December 10, 1893 (in future to be analyzed and separated, so far as possible, into its component construction and property accounts),	$1,656,562 98	
Net cost of *Ludlow Main No. 2* to December 10, 1898,	317,819 28	
Aggregate of new construction and property accounts, as classified in ledger and annual reports since 1893,	109,098 26	
Total as stated,		$2,083,480 52

BONDED DEBT.

(*As per Books of City Treasurer.*)

875 water bonds bearing interest at 7 per cent. (par value $1,000 each), issued in 1873 and 1874, and falling due as follows: —

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$25,000 payable each year from April 1, 1899, to April 1, 1902, .	$100,000 00	
$775,000, all payable April 1, 1903,	775,000 00	
		$875,000 00
200 water bonds bearing interest at 6 per cent. (par value $1,000 each), issued in 1875, and all due April 1, 1905,	. .	200,000 00
125 water bonds bearing interest at 3½ per cent. (par value $1,000 each), issued in 1890 for Ludlow reservoir improvement, and all due October 1, 1920,	. .	125,000 00
350 water bonds bearing interest at 4 per cent. (par value $1,000 each), issued in 1893 for Ludlow Main No. 2, and due as follows: —		
$200,000 payable April 1, 1913,	$200,000 00	
$150,000 payable October 2, 1923,	150,000 00	
		350,000 00
Total account water works, December 10, 1898,		$1,550,000 00

SINKING FUND.

Balance in hands of Sinking Fund Commissioners, December 10, 1897, . .		$232,848 98
Balance transferred from water works receipts of 1897, . . .	$47,647 99	
Interest on investments, 1898, . .	8,044 39	
	$55,692 38	
Less amount paid City Treasurer to meet 7 per cent. bonds, due April 1, 1898, ...	25,000 00	
		30,692 38
Balance in hands of Sinking Fund Commissioners, December 10, 1898, . .		$263,541 36
Balance available from water works receipts of 1898, ...		69,345 28
Total amount available December 10, 1898,		$332,886 64

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INVENTORY.

The value of stock, tools, office furnishings, etc., on hand December 1, 1898 (as per report of the Superintendent), is distributed to the following accounts: --

Cast-iron pipe stock,	$6,824 64	
Wrought-iron pipe stock,	1,237 22	
Meter stock,	181 84	
Stores and supplies,	742 89	
Tools and machines,	2,841 48	
Office furniture and fixtures,	881 08	
Teams,	1,350 70	
Total,		$14,059 85

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2.—DETAIL FINANCIAL STATEMENTS.

Receipts.

The following statements of the collection accounts show the analysis of the cash receipts of the department.

BILLS COMMITTED AND CHARGED TO COLLECTOR.

COLLECTION ACCOUNTS.	Uncollected Dec. 10, 1897.	Committed During 1898.	Totals.
Water rates—annual,	$1,065 61	$132,715 16	$133,780 77
Water rates—meter,	82 55	62,776 13	62,858 68
Water rates—hose and fountains,	120 00	6,388 26	6,508 26
Water rates—builders,	244 30	1,589 31	1,833 61
Water rates—sprinkling streets,	. . . .	5,099 71	5,099 71
Water rates—miscellaneous,	61 88	614 55	676 43
Total water accounts,	$1,574 34	$209,183 12	$210,757 46
Services and repairs,	$1,118 78	$10,791 44	$11,910 22
Meters and repairs,	319 56	3,907 97	4,227 53
Fines and penalties,	8 00	252 00	260 00
Off and on,	5 61	53 84	59 45
Seals,	. . . .	. . . .	. . . .
Miscellaneous accts. (sales, etc.),*	364 15	*3,442 43	3,806 58
Total other accounts.	$1,816 10	$18,447 68	$20,263 78
Totals charged 1898,	$3,390 44	$227,630 80	$231,021 24

* The amount charged for "miscellaneous accounts" during 1898, includes the following:—

For rentals of land, etc.,	$1,281 00
For bonus from real estate owners for extension of water mains,	36 18
For use of horse by sewer department in flushing sewers,	501 00
For shop sales of material, miscellaneous work, etc.,	1,624 25
Total,	$3,442 43

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AMOUNTS ABATED TO COLLECTOR.

COLLECTION ACCOUNTS.	Amounts.	Totals.
Water rates—annual,	$5,178 17	
Water rates—meter,	706 54	
Water rates—hose and fountains,	215 00	
Water rates—builders,	16 50	
Water rates—miscellaneous,	60 00	
Total water accounts,	. . .	$6,176 21
Services and repairs,	$143 69	
Meters and repairs,	31 00	
Fines and penalties,	18 00	
Off and on,	. . . .	
Miscellaneous accounts,	213 76	
Total other accounts,	. . .	406 45
Total abated, 1898,	. . . .	$6,582 66

AMOUNTS UNCOLLECTED.

COLLECTION ACCOUNTS.	Amounts.	Totals.
Water rates—annual,	$1,945 80	
Water rates—meter,	462 60	
Water rates—hose and fountains,	103 00	
Water rates—builders,	141 00	
Water rates—miscellaneous,	218 19	
Total water accounts,	. . .	$2,870 59
Services and repairs,	$1,163 94	
Meters and repairs,	197 30	
Fines and penalties,	18 00	
Off and on,	13 71	
Miscellaneous accounts,	253 04	
Total other accounts,	. . .	1,645 99
Total uncollected, 1898,	. . . .	$4,516 58

AMOUNTS COLLECTED AND PAID CITY TREASURER.

COLLECTION ACCOUNTS.	Amounts.	Totals.
Water rates—annual,	$126,656 80	
Water rates—meter,	61,689 54	
Water rates—hose and fountains,	6,190 26	
Water rates—builders,	1,676 11	
Water rates—sprinkling streets,	5,099 71	
Water rates—miscellaneous,	398 24	
Total water accounts,	. . .	$201,710 66
Services and repairs,	$10,602 59	
Meters and repairs,	3,999 23	
Fines and penalties,	224 00	
Off and on,	45 74	
Seals,	. . .	
Miscellaneous accounts,	3,339 78	
Total other accounts,	. . .	18,211 34
Total collected, 1898,	. . .	$219,922 00

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RECAPITULATION.

DIVISIONS.	Water Accounts.	Other Accounts.	Totals.
Amounts collected,	$201,710 66	$18,211 34	$219,922 00
Amounts uncollected,	2,870 59	1,645 99	4,516 58
Amounts abated,	6,176 21	406 45	6,582 66
Amounts charged (including balances forward from previous year),	$210,757 46	$20,263 78	$231,021 24

The differences in the *total collection accounts* of 1897 and 1898 are shown as follows:—

COMPARISON: 1897–1898.

	1897.	1898.	DIFFERENCES. 1898.
Amounts collected,	$215,600 00	$219,922 00	+$4,322 00
Amounts uncollected,	3,390 44	4,516 58	+1,126 14
Amounts abated,	4,887 41	6,582 66	+1,695 25
Amounts charged,	$223,877 85	$231,021 24	+$7,143 39

The following table of charges and receipts since 1885 *for water only*, shows the annual growth of the cash income of the department since that date.

COMPARATIVE STATEMENT OF WATER RECEIPTS SINCE 1885.
(On annual basis of twelve months.)

YEAR.	Water Rates Charged. (During the year only.)		Water Rates Collected.	
	Totals.	Increase.	Totals.	Increase.
1885	$93,421 60	. . .	$90,848 05	. . .
1886	100,537 77	$7,116 17	97,298 78	$6,450 73
1887	108,140 94	7,603 17	105,451 52	8,152 74
1888	115,146 35	7,005 41	112,581 21	7,129 69
1889	126,220 72	11,074 37	122,541 52	9,960 31
1890	133,553 28*	7,332 56	129,913 27*	7,371 75
1891	140,604 85	7,051 57	136,985 11	7,071 84
1892	150,515 67	9,910 82	146,349 09	9,363 98
1893	164,894 65	14,378 98	160,936 78	14,587 69
1894	167,376 11	2,481 46	162,769 71	1,832 93
1895	182,357 49	14,981 38	178,421 15	15,651 44
1896	194,069 28	11,711 79	189,373 75	10,952 60
1897	196,818 72	2,749 44	192,132 58**	2,758 83**
1898	209,183 12	12,364 40	201,710 66	9,578 08

*Amounts for 1890 estimated at $20,000 less than actual totals for that year, which includes 15 months water rates—instead of 12—due to change of time in rendering the semi-annual bills.

**Corrected amounts; totals printed in 1897 report were erroneous.

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INCOME:—VALUE ACCOUNTS.

The amounts entered on the ledger for 1898 are shown as follows:—

USE OF WATER BY THE CITY.

(Charged and credited as shown below.)

Almshouse and annexed buildings,		$314 00
City hall,		43 00
Fire department (buildings),	$651 00	
Fire department (hydrant service), 931 fire hydrants at $20 (amount fixed by city ordinance),	18,620 00	
		19,271 00
Forestry department (buildings),		5 00
Highway department (city yards, etc.),		47 00
Parks (fountains, $475; hose, $105),		580 00
Police department (buildings),		99 50
Scavenger department and Wayfarers' lodge,		74 00
School department (buildings),		4,323 78
Sewer department (flushing), (amount fixed by city ordinance),		500 00
Watering tanks and drinking fountains, 12 at $50,		600 00
Amount charged (*on ledger only*) to "City of Springfield — Special Account,"		$25,857 28
(NOTE:—CALLED A RESOURCE ACCOUNT IN PARTIAL OFFSET TO LIABILITY ACCOUNTS OF CITY BONDS AND APPROPRIATIONS.)		
Water department (buildings), amount charged (*on ledger only*) to "Expense,"		85 00
Total credited (*on ledger as gain account*) to "Water Rates — City Use" (forward),		$25,942 28

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"Total credited," etc. (see page 279) (forward),		$25,942 28

RENTS OF REAL ESTATE.

(*Charged and credited as shown below.*)

Superintendent's house, No. 37 Bridge street (charged to "**Salaries,**"	$300 00	
Hostler's and driver's house, No. 49 Bridge street (charged to "**Teams**"),	300 00	
Keeper's house, Ludlow reservoir (charged to "**Care and Repairs—Ludlow Reservoir**"),	180 00	
Keeper's house, Van Horn reservoir (charged to "**Care and Repairs — Van Horn Reservoir**"),	100 00	
Mowing-land at Ludlow; — paid for by hay delivered (charged to "**Teams**"),	30 00	
Total credited to "**Rents,**"		910 00
Total, "INCOME: — VALUE ACCOUNTS,"		$26,852 28

Once more I respectfully invite the attention of the Board and of the City Council to remarks and recommendations concerning this class of the accounts, as made in my former reports,—particularly in 1894 and in 1895,—and to the fact that the proper disposition of this question, as set forth therein, is receiving growing consideration by many leading cities in this country, some of which have already fallen into line and adopted ordinances governing the matter.

During the past year the city of Buffalo, especially, has adopted an ordinance which in my opinion will effectually and wisely place the cost and credit of the municipal use of city water more nearly where it actually belongs. I suggest your consideration of this ordinance, a valued copy of which is on file at this office.

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Expenditures.

The following statements show the distribution of the *net cost* of the principal construction and maintenance accounts during 1898: —

CONSTRUCTION.

DISTRIBUTION MAINS—EXTENSIONS.

(*See Superintendent's report for detail of location, etc.*)

LOCALITY.	PIPE.	SIZE.	COST.
Abbe avenue,	180 feet,	6 inch,	$90 09
Allen avenue,	86 "	2 "	16 79
Armory street avenue,	520 "	6 "	284 09
Armory street court,	266 "	6 "	195 57
Belmont avenue,	921 "	8 "	629 45
Benton avenue,	358 "	2 "	59 20
Bliss street (*see renewals, also*),	252 "	6 "	109 62
Bloomfield street,	287 "	6 "	188 12
Boston road,	240 "	6 "	122 09
Brace street,	18 "	6 "	79 26
Carlisle avenue,	543 "	6 "	304 16
Cass street,	32 "	6 "	22 80
Chase avenue,	622 "	6 "	428 29
Cherryvale avenue,	731 "	6 "	395 98
Clyde street,	316 "	6 "	227 34
Coleman street,	264 "	6 "	129 41
Columbia terrace,	246 "	6 "	265 52
Commonwealth avenue,	1,326 "	6 "	701 86
Crescent street,	132 "	6 "	75 21
Crosby avenue,	245 "	2 "	61 42
Crystal avenue,	937 "	6 "	464 76
"D" street,	561 "	6 "	317 53
Davis street, Ludlow,	237 "	1¼ "	31 66
Dawson avenue,	401 "	2 "	75 60
Dickinson street,	15 "	6 "	26 81
Earl street,	299 "	2 "	74 04
Eastern avenue,	411 "	8 "	299 15
Edgeland avenue,	488 "	6 "	352 70
Firglade avenue,	217 "	6 "	129 23
Florentine gardens,	594 "	6 "	308 22
Amount carried forward,			$6,465 97

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LOCALITY.	PIPE.	SIZE.	COST.
Amount brought forward,			$6,465 97
Forest avenue,	165 feet,	6 inch,	99 89
Fort Pleasant avenue,	1,292 "	8 "	1,106 84
Franklin street,	514 "	6 "	324 08
Genesee street,	38 " 194 "	1¼ " 6 "	164 15
George street,	166 "	2 "	34 12
Grover street,	1,326 "	6 "	677 93
Harriet street,	390 "	6 "	285 19
Harris road, Ludlow,	1,763 "	6 "	977 57
Hawthorn place,	6 "	6 "	4 20
Hickory street,*	1,368 "	1½ "	179 24
Long Hill street (*see renewals, also*),	322 "	8 "	172 69
Magnolia terrace,	55 "	6 "	54 59
Maple street, Ludlow,	432 "	6 "	237 06
Marlborough street,	86 "	1¼ "	61 46
Mero street, Ludlow,	489 "	6 "	269 07
Mulberry street (*purchase*),	445 "	2 "	75 00
Newland street,	754 "	6 "	399 17
Orange street,	1,673 "	6 "	919 13
Orchard street,	242 "	6 "	185 81
Orleans court,	255 "	1½ "	39 89
Palmer avenue (*see renewals, also*),	307 "	6 "	478 12
Park avenue,	24 "	6 "	34 80
Parker avenue,	448 "	6 "	284 49
Pasadena avenue,	790 "	6 "	389 44
Pineywoods avenue,	1,753 "	6 "	961 41
Portsmouth street,	243 "	6 "	156 57
Raymond avenue,	100 "	2 "	13 68
Stebbins street, Ludlow,	470 "	6 "	257 55
Walden street,	302 "	6 "	168 56
Wolcott street,	306 "	6 "	170 81
Worcester street, Indian Orchard,	576 "	6 "	393 88
Total,			*$16,042 36

*In making the above extension in Hickory street, there was received, from parties directly interested in the same, the net sum of $36.18 as "Bonus," which sum is included in "Miscellaneous Accounts" charged and paid to the Collector as shown under "Receipts."

Deducting this amount from the total cost of extensions given, the balance of $16,006.18 represents the actual expenditure from the ordinary receipts of the department.

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HYDRANT EXTENSION.

(Not charged to streets.)

LOCALITY.	COST.	TOTAL.
Setting additional hydrants.		
Bowdoin street, north of No. 57 (4″),	$38 32	
Crescent terrace, at Fort Pleasant avenue (6″),	69 78	
Elliott street (when renewing street main) (6″),	50 00	
Hickory street, opposite No. 110 (6″), Hickory street, opposite No. 130 (6″),	124 41	
Hickory street, at Woodbine avenue (4″),	46 78	
Locust street, at Mill (6″),	171 01	
Main street, I. O., near F. C. church (6″),	58 21	
Main street, I. O., midway Johnson and Cedar (6″),	128 01	
Milton street, I. O., S. E. cor. Main (6″),	56 99	
		$689 51
Replacing and improving hydrants.		
Chestnut and Worthington streets, adding 5 steamer connections,	$33 40	
Main street, at Acushnet avenue (6″),	8 72*	
North Main street, S. E. cor. Morgan (6″),	8 28*	
		50 40
Total,		$739 91

GATES AND VALVES.

(Not charged to streets.)

Setting additional gates.	
Mill street, at Locust, 16″ high,	$140 34
Willard avenue, at Shattuck, 6″ high,	15 36
Total,	$155 70

STANDPIPES—FOR STREET SPRINKLING.

Belmont avenue, near No. 134,	$24 33
Belmont avenue, at Oakland street,	24 78
Cambridge street, near Bay,	28 94
Dickinson street, at Oakland,	26 84
North Main street, near Douglas (S),	27 85
White street, opposite No. 50,	25 66
Total,	$158 40

*Balance of cost charged to maintenance account, "Hydrants—Care and Repairs."

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MAINTENANCE.

MANAGEMENT AND REPAIRS.

Salaries (superintendence and accounting),	$8,025 56	
Inspection (salaries and expenses),	2,843 02	
Teams (balance undistributed),	480 12	
Tools and machines (net loss),	476 01	
Cast-iron pipe stock (net loss, from depreciation),	188 20	
Office furniture and fixtures (net loss),	48 64	
Stationery and printing,	357 08	
Office account (janitor, supplies, etc.),	503 92	
Heat and light,	346 20	
Expense account,	438 74	
Telephone service,	140 56	
Off and on (services),	366 54	
Refunds,	49 43	
Expense, city departments,	247 57	
Frozen services,	23 98	
Petty maintenance,	1,013 35	
		$15,548 92
Care and repairs, Van Horn reservoirs,	$579 98	
" " Ludlow reservoir,	1,019 08	
" " Belchertown reservoirs,	828 08	
" " Chapin pond, } " " Emergency supply, }	226 22	
" " Ludlow main No. 1 (24 inch),	5 93	
" " Ludlow main No. 2 (36 in., etc.),	73 88	
" " Distribution mains, cast-iron,	300 43	
" " Distribution mains, wrought-iron,	722 98	
" " Gates and valves,	179 66	
" " Hydrants,	914 08	
" " Standpipes,	233 12	
" " Drinking fountains,	21 36	
" " Meters (net),	93 70	
" " Services,	621 72*	
" " Private telephone lines,	145 07	
" " Indian Leap Bridge,	36	
		5,965 65
Amount carried forward,		$21,514 57

* "CARE AND REPAIRS — SERVICES" may be analyzed as follows: —

Acct. of corporation cocks, leaks, etc.,	$139 67
" of putting on pump (small pressure),	87 49
" of stoppage by eels,	86 76
" of putting new stops inside curb line,	3 03
" of relocating stops, etc.,	23 27
" of cutting off abandoned services,	86 78
" of reconnecting services,	19 14
" of flushing (poor quality),	14 33
" of repairs of stops, valves, pipe, etc.,	20 57
" of raising or lowering boxes, and filling holes in street, etc.,	43 42
" of changes for new sewers,	63 18
" of changes for macadamizing, etc.,	34 08
Total,	$621 72

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Amount brought forward, . . .		$21,514 57
Repairs (real estate), No. 37 Bridge street, .	$19 62	
" " No. 43 Bridge street, .	28 59	
" " Stable, Bridge street, .	1 00	
" " No. 49 Bridge street, .	13 53	
" " House, Van Horn reservoir,	54 37	
		117 11
Total, ...		$21,631 68

INTEREST ON BONDS.

$900,000 at 7 per cent., 6 months,* . .	$31,500 00*	
$875,000 at 7 per cent., 6 months,* . .	30,625 00*	
$200,000 at 6 per cent., 12 months, . .	12,000 00	
$125,000 at 3½ per cent., 12 months, . .	4,375 00	
$350,000 at 4 per cent., 12 months, . .	14,000 00	
Total, ...		$92,500 00

TAXES.

On reservoir property at Belchertown: —		
Per acts of 1890, chapter 303, . .	$56 80	
Per acts of 1893, chapter 352, . .	11 45	
		$68 25
On reservoir property at Ludlow: —		
Per acts of 1893, chapter 352, . .		154 44
Total, ...		$222 69

DAMAGES.

Stephen J. and Margaret M. Kennedy, 187 Carew street,	$250 00
Peter J. King, 187 Carew street, . . .	8 00
Total, ...	$258 00

PUMPING STATION, CHAPIN POND:—OPERATING.

Fuel, supplies, etc., ...	$488 05
Pay roll labor (engineer, etc.), ...	413 84
Total, ...	$901 89

* Twenty-five $1,000-7 per cent. bonds, due and paid April 1, 1898.

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DISTRIBUTION MAINS—RENEWALS.

(*See Superintendent's report for detail of location, etc.*)

LOCALITY.	PIPE.	SIZE.	COST.
Bliss street (*see extensions, also*),	93 feet, 252 "	2 inch, 6 "	$162 15
Carew street,	568 "	6 "	486 36
Chestnut street,	567 "	6 "	415 99
Elliott street,	1,103 "	6 "	616 06
Fairbanks avenue,	261 "	4 "	130 86
Long Hill street (*reconnecting, etc.*) (*see extensions, also*),			84 70
Massasoit street,	403 feet,	6 "	270 96
Mattoon street,	24 "	6 "	29 07
Mechanics row,	69 "	2 "	23 65
Palmer avenue (*reconnecting*) (*see extensions, also*),			16 01
Railroad street,	284 feet,	1¼ "	70 85
Salem street,	390 "	6 "	247 66
Sargeant street,	861 "	6 "	603 99
State street,	783 "	6 "	655 60
Taylor street (east),	350 "	2 "	96 57
Water street,	308 "	6 "	225 24
Winthrop street,	645 "	6 "	562 82
Worthington street,	848 "	6 "	846 61
Total,			$5,545 15

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3.—MISCELLANEOUS STATEMENTS.

FINES AND PENALTIES.

The following statement shows the number of fines and penalties (of $2 each) due, charged, collected, abated and uncollected during 1898, the number charged being also the number of premises ordered shut off to enforce payment of same.

DIVISIONS.	For Unpaid Bills.		For Waste unchecked.	Total Number.
	Due before 1898.	Due in 1898.		
Number uncollected, 1897 (forward),	4	0	0	4
Number charged during 1898, .	1	125	0	126
Total charged collector, 1898, .	5	125	0	130
Number collected during 1898, .	4	108	0	112
Number abated during 1898, .	1	8	0	9
Number uncollected, 1898 (forward),	0	9	0	9
Total, as above, . .	5	125	0	130

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METERS AND INDICATORS.

Total number in use October 1, 1897,		2,496
Number of meters (on service pipes) added (net),	227	
Number of indicators (on elevators and motors) added (net),	4	
Net total number added to October 1, 1898,		231
Total number in use October 1, 1898 (see table of same following),		2,727

Total quantity of metered water charged during 1898,	405,371,533 gallons
Average quantity charged per meter or indicator,	148,651 "
Total amount charged during 1898,	$62,776 13
Average amount charged per meter or indicator,	$23 02+
Average rate charged per 1,000 gallons,	15.48+ cents

TABLE OF METERS AND INDICATORS.

(*To October 1, 1898.*)

Kind and Size.	½″ or ⅝″	¾″	1″	1½″	2″	3″	4″	6″	Indicators.	Totals.
Meters.										
Ball & Fitts, Piston		1								1
Crown	888	581	64	14	14	3	1			1,565
Desper	5	2			1					8
Empire			3							3
Hersey (rotary)	243	307	21	12	9		5	1		598
Hersey (disc)	89	91	8	3	1					192
Nash	47	53	6							106
Thomson	7	8	2	1						18
Undine (and Hartford)	4	4								8
Union Duplex	1	1								2
Union Rotary	58	19	2	1	3					83
Worthington	11	6		3	2					22
										2,606
Indicators.										
Desper (for elevators)									92	
Desper (" motors)									1	
Friction (for elevators)									3	
Graves (" ")									6	
Hoyt (" ")									1	121
Ross (" motors)									2	
Whitney (" ")									7	
Whittier (" elevators)									7	
Worthington (" ")									2	
Totals	1,353	1,073	106	34	30	3	6	1	121	2,727

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INSPECTION.

With our present force of three inspectors for all the many and growing divisions of work under this head, there has been found but little time for a systematic "house-to-house" inspection after meeting the demands of the regular work of the year.

With the early addition of a fourth inspector the coming year, it is expected that this neglected branch of the work will be attended to more regularly.

The customary classification of work for the past year and of the time spent by each man under the same, is seen by the following tabulated statement: —

CLASSIFICATION.	Inspectors.			Total No. of Days.
	No. 1.	No. 2.	No. 3.	
	Days.	Days.	Days.	
Reading and inspection of meters	133	168	168	469
Turning on and off $8 hose	0	4	0	4
Inspection of hose use—general	0	25	10	35
General or "house-to-house" inspection	0	16	34	50
Semi-annual and monthly inspection (billing)	75	0	1	76
Monthly inspection of vacancies reported	0	0	48	48
Special inspection (leaks, bills, and collections)	0	8	12	20
Special inspection (real estate sales)	8	20	0	28
Office work	68	47	15	130
Sickness, etc	4	0	0	4
*Total (288 working days in the year)	288	288	288	864

For further reference I have again shown the increase of the *meter inspection* by years since 1891, as arranged in the following form: —

Year.	No. of Inspectors.	Time Spent.	Annual Increase.
1891,	Three.	213 days.	. . .
1892,	"	244 "	31 days.
1893,	"	250 "	6 "
1894,	"	307 "	57 "
1895,	"	362 "	55 "
1896,	"	404 "	42 "
1897,	"	431 "	27 "
1898,	"	469 "	38 "

*The total working days during 1898 were less than in 1897 on account of the additional Saturday half-holidays during the summer.

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This shows a total increase of 256 days in seven years, which have been taken largely from time formerly devoted to the general or "house-to-house" inspection!

What little time it has been possible to spare for this general work has been spent where most needed, and has resulted in finding 419 leaking fixtures on unmetered premises, which have been recorded and caused to be corrected.

STATISTICS.

Annexed will be found the usual comparative statement showing a classification of consumers supplied at date together with a summary of statistics for the year, as recommended by the New England Water Works Association.

Respectfully submitted,

A. R. HATHAWAY, *Water Registrar.*

SPRINGFIELD, MASS., December 28, 1898.

BOARD OF WATER COMMISSIONERS, December 28, 1898.

Accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

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COMPARATIVE STATEMENT,

Showing the Classes of Consumers and the Number of Each Class Supplied by the Aqueduct Company in 1864, and by the City in 1874, 1880, 1890, 1897, 1898.

CLASSES.	1864.	1874.	1880.	1890.	1897.	1898.
Bakeries	.....	.....	8	15	30	33
Banks	2	9	12	15	16	16
Barber Shops	2	14	3	30	73	81
Baths	.....	439	829	2,654	6,595	7,256
Beer Pumps	.....	.....	.....	.....	66	64
Boarding Houses	.....	33	55	97	68	70
Breweries	.....	.....	2	2	2	2
Cemeteries	.....	.....	1	5	6	6
Churches (from 1895)	.....	.....	.....	.....	34	37
Churches, Halls, and Public Buildings (to 1895)	2	12	14	60	.....	.....
Clubs, Societies, etc. (from 1897)	.....	.....	.....	.....	33	33
Dyehouses and Bleacheries	2	2	3	3	4	4
Elevators	.....	.....	15	96	134	139
Families	1,288	3,637	4,893	8,511	13,175	13,869
Fish Tanks and Aquariums	.....	.....	.....	8	11	12
Foundries	4	5	6	12	13	13
Fountains (private)	.....	.....	12	18	11	9
Fountains (public)	.....	.....	.....	10	12	13
Gas Works	.....	.....	1	1	1	1
Greenhouses	2	3	9	8	17	18
Halls (from 1895)	.....	.....	.....	.....	43	44
Hose	.....	.....	885	1,857	2,913	3,226
Hotels	7	12	15	20	19	19
Laundries	.....	6	6	25	37	38
Manufactories	6	50	80	78	77	78
Markets	8	31	54	60	93	95
Motors	.....	.....	13	44	40	63
Offices and Rooms	.....	88	521	1,088	1,659	1,701
Parks (from 1895)	.....	.....	.....	.....	12	13
Photographers	.....	6	9	11	10	10
Printers and Publishers	.....	.....	.....	25	23	24
Public Buildings and Institutions (from 1895)	.....	.....	.....	.....	21	23
Public Institutions (to 1895)	.....	.....	.....	6	.....	.....
Railroads	.....	.....	3	4	4	4
Restaurants	5	14	17	24	40	42
Saloons	9	34	32	45	45	44
Schools (total to 1897)	.....	12	15	33	.....	.....
Schools (private) (from 1897)	.....	.....	.....	.....	14	14
Schools (public) (from 1897)	.....	.....	.....	.....	27	28
Shops	18	51	88	189	302	319
Slaughter Houses	.....	.....	.....	1	.....	.....
Stables (private)	82	274	379	704	1,141	1,174
Stables (public)	6	14	23	30	28	27
Steam Engines	.....	.....	48	74	106	109
Steam Heaters	.....	.....	32	104	701	736
Stores	125	225	320	359	571	613
Street Railways (from 1895)	.....	.....	.....	.....	1	1
Urinals	.....	131	296	435	443	461
Water Closets	.....	1,192	2,402	6,792	13,373	14,376
Watering Tanks and Drinking Fountains	.....	.....	.....	12	11	12

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SUMMARY OF STATISTICS.

(As Recommended by the New England Water Works Association.)

REPORT OF 1898.

Springfield Water Works, Hampden County, Mass.

Population by census of 1895, ... 51,534

(*Estimated by Assessors for* 1898, = 57,676.)

Dates of construction :—

Original works in city, by private company, (Sale of same to city, 1872.)	1864
Works at Ludlow, Mass., .	1873–1874–1875
Works at Belchertown, Mass., .	1890–1891
Additional main from Ludlow reservoir,	1893–1894

By whom owned, ... City of Springfield.

Sources of supply : —

Low pressure — from impounding reservoirs in the city, fed by springs, surface water, and also by the high pressure.

High pressure — from impounding reservoirs in Ludlow and Belchertown, fed by natural streams, springs, and surface water.

(Aggregate storage capacity, 2,295,792,000 gallons.) *

Mode of supply, ... entirely by gravitation.

* Lombard reservoir abandoned in 1893 and not used since.

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FINANCIAL.

(NOTE.—All expenditures, including ordinary extension of mains, etc., are made from general receipts—from water rates, sales, etc.,—but the *amount* of such expenditure for *extension of mains* is annually determined by the City Council.)

MAINTENANCE.

RECEIPTS.

INVENTORY of material, tools, etc., on hand Dec. 10, 1897			$15,536 64
FROM CONSUMERS (*Division II.*) :—			
N. Water rates, fixed	$134,921 41		
Q. Water rates, meter (*Division I.*)	61,689 54		
C. Net receipts for water (from consumers)	$196,610 95		
D. (Including "U", under construction.) Miscellaneous — (services, meters, repairs, rents, sales, etc.) (See "Services"—under "Distribution"—18, 19, 20, etc., note)	18,211 34		
E. Total, 1898,		$214,822 29	
FROM PUBLIC FUNDS :—			
F. Hydrants, 931 at $20 (*value*)	$18,620 00*		
G. Fountains, tanks, sewers, etc. (*value*)	1,680 00*		
H. Street watering (*cash*)	5,099 71		
I. Public buildings and departments (*value*)	5,642 28*		
J. General appropriations, for bonded debt (*cash*)	00 00**		
Total, 1898,		31,041 99	
FROM REAL ESTATE RENTALS :—			
House rent given employees in part payment for services, and mowing-land rented at Ludlow, paid for by hay (*value*)		910 00*	
K. Gross receipts from all sources, 1898 (*cash and value*)			246,774 28
Total available (includ'g material, etc., from previous year)			$262,310 92

EXPENDITURES.

GENERAL ACCOUNT :—			
AA. Management and repairs	$21,631 68		
BB. Interest on bonds	92,500 00		
Taxes on reservoir prop'y,	222 69		
		$114,354 37	
SPECIAL ACCOUNT :—			
Dist'b'n mains, renewals,	$5,545 15		
Pumping station, Chapin Pond (operating)	901 89		
Miscellaneous accounts,	429 92		
		6,876 96	
CC. Total maintenance for year		$121,231 33	
GG. (Including same under "Construction") Services, meters, repairs, etc. (labor and material charged to consumers and included in "Receipts" under "D")		14,608 24	
Bonds paid		00 00**	
Gross expenditures, 1898			$135,839 57
DD. BALANCE divided as follows :—			
Amount used for construction		$17,208 94	
Cash available for sinking fund		69,345 28	
Value city use of water, charged to City of Springfield		25,857 28	
Inventory of material, tools, etc., on hand Dec. 10, 1898		14,059 85	
			126,471 35
EE. Total (in balance with receipts)			$262,310 92

* No *cash* income derived, but estimated amounts charged and credited in ledger and annual report.

** $25,000.00 for maturing bonds paid from *sinking fund* instead of tax levy, as before.

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CONSTRUCTION.

RECEIPTS.

R.	Balance from previous year (account "Ludlow Main No. 2")	$427 27
	Amount from maintenance receipts	17,208 94
S.	Bonds issued	00 00
T.	Appropriations from tax levy (see *note* under "Financial")	00 00
U.	Other sources (included with "D" under maintenance receipts)	.....
V.	Total available	$17,636 21

EXPENDITURES.

FF.	Extensions, distribution mains		$16,042 36
GG.	Extension, services (paid for by consumers, see "Maintenance")		.....
HH.	Special :—		
	(*a*) Ludlow Main No. 2	$35 00	
	(*b*) Hydrant extensions	739 91	
	(*c*) Water rights — Jabish brook (expenses on account of pending claims)	162 38	
	(*d*) Miscellaneous (*net*)	264 29	
			1,201 58
II.	Total construction for year		$17,243 94
JJ.	Balance (account "Ludlow Main No. 2")		392 27
KK.	Total (in balance with receipts)		$17,636 21

GENERAL STATEMENTS.

W.	Net cost of works to date,		$2,083,480 52
X.	Bonded debt at this date,		1,550,000 00
Y.	Value of sinking fund at this date,		332,886 64
Z.	Rate of interest on bonded debt :—		
	7 per cent. on	$875,000 00	
	6 per cent. on	200,000 00	
	4 per cent. on	350,000 00	
	3½ per cent. on	125,000 00	
	Average rate 5.91 + per cent. on		$1,550,000 00

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CONSUMPTION.

1.	Total population at date (assessors' estimate),	57,676
2.	Estimated population on lines of pipe at date,	50,800
3.	Estimated population supplied at date, .	45,500
4.	Total number gallons consumed for year (estimated), ...	1,877,012,500 gallons.
5. 6.	Passed through domestic meters, / Passed through manufacturing meters, (or 21.59 + per cent.)	405,371,533 gallons.
7.	Average daily consumption (estimated), .	5,142,500 gallons.
8.	Gallons per day to each inhabitant (estimated) (1), ...	89
9.	Gallons per day to each consumer (estimated) (3), ...	113
10.	Gallons per day to each tap (estimated) ("Distribution," 22), . . .	567

DISTRIBUTION.

MAINS.

1.	Kind of pipe used; — wrought-iron, wrought-iron cement-lined, and cast-iron.		
2.	Sizes; — from 1 to 36 inches.		
3.	Extended in 1898 (added to pipe table), .		38,944 feet.
4.	Discontinued in 1898 (deducted from pipe table),		10,610 feet.
5.	Total now in use, ...		140.08 miles.
6.	Cost of repairs per mile, . . .		$7.87+
7.	Number of leaks per mile, . . . (Total leaks during year = 79)		$\frac{56}{100}$+
8.	Small distribution mains,— less than 4 inches in diameter,— total length, . . .		39,252 feet.
9.	Hydrants added in 1898 (public) net, . .		39
10.	Number of public hydrants now in use, .		931
11.	Stop gates added in 1898 (public and private), net, ...		80
12.	Number of stop gates now in use, . .		1,763
13.	Small stop gates, less than 4 inches — total, .		318
	(a) High service, ...	207	
	(b) Low service, ...	111	
14.	Number of blow-off gates, . . .		86
15.	Range of pressure on mains at center for day and night: —		
	(a) High service, ...	100 to 120 pounds	
	(b) Low service, ...	30 to 35 pounds	

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SERVICES.

16. Kind of pipe used; — wrought-iron (tarred and galvanized) and cast-iron.
17. Sizes from ½ to 6 inches.
18. Extended in 1898 (in feet).
19. Discontinued in 1898 (in feet).
20. Total now in use (in miles).

NOTE.— Services paid for entirely by the consumers, and no special statistics kept of them.

21.	Service taps added (net),		349
22.	Number of service taps now in use,		9,070
23.	Average length of service,	(See note under 18, 19, 20.)	
24.	Average cost of service,		
25.	Meters added (including indicators) (net),		231
	(*a*) Meters added,	227	
	(*b*) Indicators added,	4	
26.	Number of meters now in use, (including indicators),		2,727
	(*a*) Meters (on supply pipes),	2,606	
	(*b*) Indicators (on elevators and motors),	121	
27.	Motors and elevators added (net),		28
	(*a*) Motors added, 23; discontinued, 0;	+23	
	(*b*) Elevators added, 7; discontinued, 2;	+5	
28.	Number of motors and elevators now in use,		202
	(*a*) Motors,	63	
	(*b*) Elevators,	139	

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SUPERINTENDENT'S REPORT.

To the Board of Water Commissioners:—

GENTLEMEN:—I hereby submit the twenty-fifth annual report of the Superintendent for the year ending November 30, 1898.

The amount of pipe laid, the number of gates and fire hydrants set, the amount of pipe discontinued, and the number of gates and fire hydrants taken out, are shown in the following tables.

MAIN PIPE LAID, GATES AND HYDRANTS SET.

NUMBER.	Extensions.	Renewals.	Private.	Totals.
Feet of Pipe laid—High service,	26,744	11	250	27,005
Feet of Pipe laid—Low service,	2,066	7,840	0	9,906
Totals laid, ...	28,810	7,851	250	36,911
Added to tables (changes, etc.),	1,221	0	812	2,033
Totals, ...	30,031	7,851	1,062	38,944
Gates set—High service, . . .	53	1	20	74
Gates set—Low service, . . .	12	7	3	22
Totals set, ...	65	8	23	96
Added to tables (account previous years), ...	0	0	1	1
Totals, ...	65	8	24	97
Fire Hydrants set—High service,	31	2	4	37
Fire Hydrants set—Low service,	9	5	0	14
Totals set, ...	40	7	4	51
Added to tables (account previous years), ...	0	1	0	1
Totals, ...	40	8	4	52

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MAIN PIPE, GATES AND HYDRANTS TAKEN OUT OR ABANDONED.

NUMBER.	TOTALS.
Feet of Pipe—High service,	2,020
Feet of Pipe—Low service,	8,590
Total,	10,610
Gates—High service,	5
Gates—Low service,	12
Total,	17
Fire Hydrants—High service,	2
Fire Hydrants—Low service,	7
Total,	9

There are now in use 140.08 miles of supply and distribution mains, a net addition of 5.37 miles the past season.

Five hundred sixty-two service taps have been made, a net addition of 349 in use. The total number now connected with the works is 9,070.

RAINFALL.

The table which follows shows the amount of rain and melted snow in inches, as registered at Belchertown, Ludlow, the U. S. Armory and the City Engineer's office in this city, during the year ending November 30, 1898.

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Months.	Belchertown.	Ludlow Reservoir.	U. S. Armory.	Engineer's Office.
	Inches.	Inches.	Inches.	Inches.
December, 1897, .	4.95	5.77	5.16	5.51
January, 1898, . .	5.77	6.12	4.42	5.16
February, 1898, .	4.84	2.95	4.45	4.10
March, 1898, . .	2.38	2.22	1.00	1.81
April, 1898, . . .	4.53	4.21	3.46	3.11
May, 1898, . . .	4.46	4.65	5.50	4.37
June, 1898, . . .	2.55	3.05	3.26	3.13
July, 1898, . . .	2.91	4.67	4.54	4.54
August, 1898, . .	7.29	8.30	6.52	6.38
September, 1898, .	2.40	3.20	2.73	2.61
October, 1898, . .	7.10	7.04	6.09	5.54
November, 1898, .	6.22	5.95	6.93	6.61
Totals, . . .	55.40	58.13	54.06	52.87
Mean, ...	4.62	4.84	4.51	4.41

MAINTENANCE.

Seventy-nine leaks have been repaired this season, an average of $\frac{56}{100}$ + to the mile of pipe in use. The following table shows the size and kind of pipe on which they occurred.

Kind of pipe.	2″	3″	4″	6″	8″	10″	12″	16″	20″	24″	30″	36″	Totals.
Cement-lined,	8	13	7	12	4	0	1	0	0	0	0	0	45
Cast-iron, .	0	0	3	7	7	0	2	9	0	2	3	1	34
Totals, .	8	13	10	19	11	0	3	9	0	2	3	1	79

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The works, as a whole, are in good condition. All gates and fire hydrants have received their usual inspection. The Ludlow and Belchertown divisions are in good order, having been well looked after by the keepers, Thomas P. Conroy and Francis Blackmer, who reside on the premises cared for.

Water from the various sources from which the supply is obtained has been sent to the State Board of Health for analysis, as has previously been the custom.

INVENTORY.

The amount of stock, tools and fixtures on hand December 1, 1898 was $14,059.85.

STATISTICS.

Annexed will be found tables showing the size and location of pipe laid, gates and hydrants set, pipe, gates and hydrants taken out; also location of fountains, fire reservoirs, watering tanks, fire hydrants, standpipes, and main and distribution pipe.

Respectfully submitted,

J. C. HANCOCK, *Superintendent.*

SPRINGFIELD, MASS., December 28, 1898.

BOARD OF WATER COMMISSIONERS, December 28, 1898.

Accepted and ordered made a part of the report of the Board to the City Council.

A. R. HATHAWAY, *Clerk.*

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WATER PIPE LAID AND TAKEN OUT IN 1898.

INCLUDING ALL CHANGES IN PIPE TABLES.

LOCATION.	Size in Inches.	Material.	Length in Feet.		
			High Service.	Low Service.	Totals.
Pipe Laid by Private Parties.					
Beaudry street, I. O., extension (S. R.—10,958)	1	Wrought-iron.	250	....	
Sackett's avenue, at Worthington st. (account 1896, S. R.—9,638)	1	"	10	....	
Sherman street, extension (account 1882, S. R.—3,701)	1	"	11	....	271
Sackett's avenue, south from Worthington street (account 1896, S. R.—9,638)	1¼	"	190	....	190
Allen avenue, extension (account 1895, S. R.—9,209)	2	"	178	....	
Buena Vista Plaza, west from Long Hill street (account 1897, S. R.—10,533)	2	"	423	....	601
Total wrought-iron laid by private parties	....	.....	1,062	....	1,062
Pipe Laid by City.					
Hickory street, east from 1½″	1	Wrought-iron.	13	....	13
Davis st., Ludlow, south from Stebbins	1½	"	237	....	
Genesee street, at Franklin	1¼	"	38	....	
Marlborough street, east from Norfolk	1¼	"	86	....	
Railroad street, east from Water	1¼	"	....	284	645
Hickory street, east from ice houses	1½	"	1,355	....	
Orleans court, east from Oak street	1½	"	255	....	1,610
Allen ave., extension from private 2″	2	"	86	....	
Benton avenue, east from 4″	2	"	358	....	
Bliss street, from railroad to Mechanics row	2	"	....	93	
Crosby street, west from Walnut	2	"	245	....	
Dawson avenue	2	"	401	....	
Earl street, Johnson to Bloomfield	2	"	299	....	
George street, completion	2	"	166	....	
Mechanics row, south from Bliss street	2	"	....	69	
Mulberry street, east from Maple (445 feet of high service, bought of H. H. Bowman). (See S. R.—4,957)	2	"	....	....	
Raymond avenue, extension from private 2″	2	"	100	....	
Taylor street, east from Chestnut	2	"	....	350	2,167
Total wrought-iron laid by city	....	.....	3,639	796	4,435
Butler st., east from 6″ (33 ft. of low service, wrongly called "(P)" since 1894, paid for by sewer dept., but city pipe)	4	Cast-iron.	....	....	

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WATER PIPE LAID, ETC., IN 1898—CONTINUED.

LOCATION.	Size in Inches.	Material.	LENGTH IN FEET.		
			High Service.	Low Service.	Totals.
Fairbanks avenue, north from Worthington street	4	Cast-iron.	....	261	
FIRE RESERVOIR, Main street, near Patton	4	"	....	31	
Hickory street, at Woodbine ave., east	4	"	11	....	
Howard street, near Water (west), to railroad (304 feet of high service wrongly recorded as "(P)",—account of 1892)	4	"	....	....	
HYDRANTS, sundry streets as follows:					
Rowdoin street	4	"	9	....	
Demond avenue, corner Fisk	4	"	3	....	
Demond avenue, corner Plainfield	4	"	....	4	
Edgeland avenue	4	"	6	....	
Elliott street	4	"	....	11	
Hickory street, at Woodbine ave.	4	"	9	....	
Hyde avenue, corner Fisk	4	"	5	....	
Willow street, at Hubbard avenue	4	"	8	....	
Monmouth street (name changed from Truxton street)	4	"	....	....	358
Abbe avenue, extension westerly	6	"	....	180	
Armory street avenue, east from Armory street	6	"	520	....	
Armory street court, south from Armory street avenue	6	"	266	....	
Bliss street, Water to railroad	6	"	....	252	
Bloomfield street, west from Earl	6	"	265	....	
Bloomfield street, west from Pasadena avenue	6	"	22	....	
Boston road, east from Coleman street	6	"	240	....	
Brace street, completion at Belmont avenue	6	"	18	....	
Carew street, near Chestnut to Massasoit	6	"	....	568	
Carlisle avenue, extension	6	"	543	....	
Cass st., completion at Franklin, south	6	"	32	....	
Chase ave., east from Ft. Pleasant	6	"	622	....	
Cherryvale avenue	6	"	731	....	
Chestnut street, Pearl to Edwards	6	"	....	567	
Clyde street, west from Plainfield	6	"	....	316	
Coleman street, extension	6	"	264	....	
Columbia terrace, north from Liberty street	6	"	246	....	
Commonwealth avenue, Walden street to beyond Washington	6	"	1,326	....	
Crescent street, extension	6	"	132	....	
Crystal avenue	6	"	937	....	
"D" street, east from North Main	6	"	561	....	
Dickinson st., at Parker ave., east	6	"	15	....	
Donald street, at North Main (13 ft. of high service, hitherto recorded as "Eagle st., at North Main, west")	6	"	....	....	
Edgeland avenue, west from Fort Pleasant	6	"	488	....	
Elliott street	6	"	....	1,103	
FIRE RESERVOIRS, sundry streets as follows:—					
Bridge street, at Water	6	"	....	15	
Ferry street, at Main	6	"	....	33	
Main street, at Franklin	6	"	....	16	
Firglade avenue, extension to Pineywoods avenue	6	"	217	....	

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WATER PIPE LAID, ETC., IN 1898—CONTINUED.

LOCATION.	Size in Inches.	Material.	LENGTH IN FEET.		
			High Service.	Low Service.	Totals.
Florentine gardens	6	Cast-iron.	594	....	
Forest avenue, extension to Walden st.,	6	"	165	....	
Franklin street, west from Cass	6	"	514	....	
Genesee street, north from 1¼" at Franklin	6	"	194	....	
Grover street, completion	6	"	1,326	....	
Harriet street, Chestnut to North	6	"	....	390	
Harris road, Ludlow, north from North street	6	"	1,763	....	
Hawthorn place, completion at Pineywoods avenue (north)	6	"	6	....	
HYDRANTS, sundry streets, as follows:					
Armory street court	6	"	5	....	
Bliss street	6	"	....	13	
Bloomfield street	6	"	8	....	
Brace street	6	"	7	....	
Carew street	6	"	....	13	
Carlisle avenue	6	"	9	....	
Chase avenue	6	"	19	....	
Clyde street	6	"	....	7	
Columbia terrace	6	"	7	....	
Commonwealth avenue	6	"	17	....	
Crescent terrace	6	"	6	....	
Crystal avenue	6	"	7	....	
"D" street	6	"	5	....	
Elliott street	6	"	....	6	
Franklin street	6	"	8	....	
Grover street	6	"	6	....	
Harriet street	6	"	....	5	
Hickory street	6	"	13	....	
Locust street, at Mill	6	"	19	....	
Long Hill street	6	"	11	....	
Main street, I. O.	6	"	28	....	
Milton street, I. O.	6	"	4	....	
Newland street	6	"	....	7	
North Main street, at Morgan	6	"	....	3	
Orange street	6	"	15	....	
Orchard street	6	"	....	9	
Palmer avenue	6	"	7	....	
Parker avenue	6	"	7	....	
Pineywoods avenue	6	"	21	....	
Sargeant street	6	"	....	9	
Winthrop street	6	"	....	15	
Worcester street, I. O.	6	"	7	....	
Worthington street	6	"	....	18	
Magnolia terrace, completion at Pineywoods avenue (north)	6	"	55	....	
Maple street, Ludlow, east from Harris road	6	"	432	....	
Massasoit street, north from Carew	6	"	....	403	
Mattoon street, at Chestnut	6	"	....	24	
Mero street, Ludlow, east from Harris road	6	"	489	....	
Newland street, west from Plainfield	6	"	....	754	
Orange street, east from White	6	"	474	....	
Orange street, east from Highland	6	"	1,199	....	
Orchard street, extension to end of street	6	"	....	242	
Palmer avenue, east from Locust st.	6	"	307	....	
Park avenue, completion at Fort Pleasant	6	"	24	....	

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WATER PIPE LAID, ETC., IN 1898—CONTINUED.

LOCATION.	Size in Inches.	Material.	Length in Feet.		
			High Service.	Low Service.	Totals.
Parker avenue, south from Dickinson street	6	Cast-iron.	448	....	
Pasadena avenue, White street to Johnson	6	"	790	....	
Pasadena avenue, south from Johnson street (name changed from "Pear" street)	6	"	....	....	
Pineywoods avenue	6	"	1,753	....	
Portsmouth street, east from Eastern avenue	6	"	243	....	
Salem street, Spring to Elliott	6	"	....	390	
Sampson street (see Wolcott)	6	"	....	....	
Sargeant st., near Main to near Fulton	6	"	....	861	
State street, Maple to Elliott	6	"	....	783	
Stebbins street, Ludlow, west from Harris road	6	"	470	....	
Walden street, Forest avenue to Commonwealth	6	"	302	....	
Water street, Railroad st. to Hampden	6	"	....	308	
Willard avenue, at Shattuck st., north	6	"	8	....	
Winthrop street, west from Dale	6	"	....	645	
Wolcott street (first called "Sampson"), east from Liberty	6	"	306	....	
Worcester street, I. O., east from Pine	6	"	576	....	
Worthington st., Chestnut to Spring	6	"	....	848	28,922
Belmont avenue, completion	8	"	921	....	
Eastern avenue, Manhattan street to Marshall place	8	"	411	....	
Fort Pleasant avenue, north from Sumner (wrongly recorded as 6" since 1894, when laid)	8	"	1,176	....	
Fort Pleasant avenue, completion	8	"	1,292	....	
Long Hill street, at Spruceland avenue, north (wrongly recorded as 6" since 1895, when laid)	8	"	45	....	
Long Hill street, Spruceland avenue to Cherryvale	8	"	322	....	4,167
Total cast-iron laid by city			24,337	9,110	33,447
Total wrought-iron laid by city (forward)			3,639	796	4,435
Total wrought-iron laid by private parties (forward)			1,062	....	1,062
Total amount added, 1898			29,038	9,906	38,944
Pipe Taken Out or Abandoned.					
Sackett's avenue, south from Worthington street (P)	¾	Wrought-iron.	....	180	180
Fort Pleasant avenue, south from 8"	1¼	"	94	....	94
Bliss street, west from Water	2	Cement-lined.	....	361	
Long Hill street, Spruceland avenue (north line) to Cherryvale	2	Wrought-iron.	367	....	
Mechanics row	2	Cement-lined.	....	220	
Mulberry street, east from Maple (P) (445 ft. of high service, sold to city)	2	Wrought-iron.	....	....	
Palmer avenue, east from Locust st (P)	2	"	307	....	1,255
Carew street, east from 6" (near Chestnut, east)	3	Cast-iron.	....	4	
Carew street, near Chestnut to Massasoit	3	Cement-lined.	....	553	

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WATER PIPE LAID, ETC., IN 1898—CONCLUDED.

LOCATION.	Size in Inches.	Material.	LENGTH IN FEET.		
			High Service.	Low Service.	Totals.
Chestnut street, Pearl to Edwards....	3	Cement-lined.	....	567	
Fairbanks avenue, from Worthington street.....	3	"	....	329	
Hickory street, at Woodbine ave., east	3	"	11	....	
Massasoit street, north from Carew...	3	"	....	400	
Railroad row, east from Water street to beyond 6″ (etc.).....	3	"	....	562	
Salem street, Spring to Elliott.....	3	"	....	392	
Taylor street, east from Chestnut.....	3	"	....	358	3,176
Butler st., east from 6″ (P)—(account error, 1894:—33 ft. of low service, paid for by sewer department, but city pipe.).....	4	Cast-iron.	....	....	
Elliott street.....	4	Cement-lined.	....	913	
Howard street, near Water (west) to railroad (P)—(304 feet of high service laid in 1892 for Newell Bros., but actually remaining city's property)	4	Cast-iron.	....	....	
HYDRANTS, sundry streets:—	4	Cement-lined.	....	18	
Mattoon street, at Chestnut.....	4	"	....	24	
Truxton street, (name changed to "Monmouth" street).....	4	Cast-iron.	....	....	
Winthrop street, west from Dale.....	4	Cement-lined.	....	658	1,613
Eagle street, at North Main, west (13 ft. of high service, to be recorded as "Donald street, at North Main")...	6	Cast-iron.	....	....	
Fort Pleasant avenue, north from Sumner (wrongly recorded as 6″ since 1894, when laid;—*is actually* 8″)	6	"	1,176	....	
Long Hill street, 8″ to Spruceland avenue (wrongly recorded as 6″ since 1895, when laid;—*is actually* 8″)	6	"	45	....	
North Main street, at proposed street, midway Adams nursery (east)—(*proved to be* 4″—instead of 6″—when taken out and 6″ laid for "D" street)	6	"	20	....	
Pear street, south from Johnson (name changed to "Pasadena avenue").....	6	"	....	....	
Sargeant street, near Main to near Fulton.....	6	Cement-lined.	....	805	
State street, Maple to Elliott.....	6	"	....	783	
Water street, Railroad row to Fort street.....	6	"	....	615	
Worthington street, Chestnut to Spring	6	"	....	848	4,292
Total amount taken out or abandoned, 1898.....			2,020	8,590	10,610
Net addition to tables, 1898.....			27,018	1,316	28,334

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MAIN AND DISTRIBUTION PIPE

IN USE DECEMBER 1, 1898.

[*Pipe Belonging to Private Parties Marked* (*P*).]

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Abbe ave., west from Plainfield st.	6	....	....	....	940	
do. Plainfield st. to Fisk ave.	6	....	....	....	719	1,659
Acushnet ave., east from Main st.	6	....	....	....	1,080	1,080
Adams st., Main to Ashmun	8	....	....	....	1,038	1,038
Alden st., Hancock to Wilbraham ave.	6	....	....	2,253	....	
do. Wilbraham ave. to Hickory st.	8	....	....	421	....	
do. at Hickory	4	....	....	4	....	2,678
Alert st., north from Worthington	1	....	260	....	....	260
Alexander st.	6	....	....	....	762	762
Allen ave., n. from Allen st. (P) (S. R.,-9,209).	2	200	...	....	....	
do. north from private pipe	2	86	....	....	....	286
Allen st., Mill to White	8	....	....	930	....	
do. White to Plumtree road	6	....	....	4,487	....	5,417
Allendale st.	6	....	....	....	707	707
Amherst st.	6	....	....	1,339	....	1,339
Andrew st., north from Boston road	4	....	....	1,405	....	1,405
Arbor st., Carew to Butler	6	....	....	....	457	457
Arch st., North Main to east line of Conn. River R. R. location	6	....	....	....	985	985
do. west from North Main	6	...	....	51	....	51
Armory st., Federal to Worthington	4	....	....	936	....	
do. north from Worthington	8	....	....	702	...	
do. 8″ to near Summer st.	1	81	....	....	....	
do. north from 8″ (for S. R.-10,661)	2	92	....	....	....	
do. Summer to Van Horn reservoir	8	....	....	5,571	....	
do. Van Horn reservoir to Springfield st.	12	....	....	2,584	....	9,966
Armory st. ave., east from Armory st.	6	....	....	520	....	520
Armory st. court, south from Armory st. ave.	6	....	...	266	....	266
Ashley st., Cedar to Hancock	6	....	....	1,427	....	1,427
Ashmun st., Central to Adams	8	....	....	....	269	269
Atwater ter., extension from Rimmon ave.	6	....	....	504	....	504
Auburn st.	6	....	....	....	887	887
do. west from Main	6	....	....	90	....	90
Avon place	4	....	....	715	....	715
do. at Maple st.	6	....	....	....	57	
do. east from Maple	4	....	380	....	....	
do. east from cement-lined	4	....	....	....	416	853
Bancroft st., North Main to North	6	....	....	....	911	
do. North to Chestnut	6	....	....	....	600	
do. at Chestnut	8	....	....	....	4	515
do. east from North Main	6	....	....	21	....	1, 21
Banks ave., west from Water st. (P) (S. R. -5,495)	1½	....	193	....	....	193
Bay st., St. James ave. to Thompson st.	8	1,275	....	....	....	
do. Thompson to Oak Grove cemetery	8	...	....	3,793	....	5,068

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Beacon st., Eastern ave. to Colton st.	6	....	....	374	....	
do. east from Colton	2	129	....	....	....	503
Beaudry st., I. O., south from Main	6	....	....	498	....	
do. south from 6″ (P) (S. R.-10,768)	1	310	....	....	....	808
Beaumont st., north from Belmont ave.	6	....	....	688	....	688
Beech st.	6	....	....	560	....	560
Beechwood ave., Sumner to Spruceland	6	....	....	565	....	565
Bellevue avenue	8	....	....	1,728	....	1,728
Belmont ave., Fort Pleasant to Sumner.	8	....	....	5,383	....	
do. Sumner to Forest	8	....	....	42	....	5,425
Benton ave., east from Benton st.	6	....	....	15	....	
do. east from 4″	2	358	....	....	....	373
Benton st., State to 6″	4	....	....	1,175	....	
do. 4″ to Wilbraham road	6	....	....	418	....	1,593
Berendo ave.	6	....	....	389	....	389
Berkeley st., Princeton to Monmouth	6	....	....	493	....	493
Berkshire st., I. O., west from Myrtle (see Ludlow reservoir)	24	—	....	....	....	
do. Myrtle to Oak	6	....	....	703	....	703
Beverly st.	6	....	....	252	....	252
Birnie ave., Grace st. to Walter	2	....	283	....	....	
do. south from Walter st.	6	....	....	....	168	
do. north from Thomas st.	6	....	....	....	302	753
do. Wason to Grace st.	8	....	....	726	....	
do. south from Grace st.	8	....	....	12	....	
do. Alfred st. to Douglas st.	6	....	....	281	....	
do. south from Douglas st.	6	....	....	176	....	1,195
Bliss st., Main to Water.	6	....	....	....	995	
do. Water to railroad	6	....	....	....	292	
do. railroad to Mechanics Row	2	....	93	....	....	1,380
Bloomfield st., west from Earl	6	....	....	265	....	
do. west from Pasadena ave.	6	....	....	22	....	287
Bond pl., so. from Bridge st. (P) (S. R.-6,033)	1¼	....	144	....	....	144
do.	6	....	....	191	....	191
Bond st., Main to Chestnut	6	....	....	....	1,673	1,673
do. east from Main	6	....	....	18	....	
do. east from 6″	4	....	....	183	....	201
Boston & Albany R. R. line of	8	....	....	....	1,225	1,225
Boston ave., south from Boston road (P) (S. R.-8,171)	1¼	172	....	....	....	172
Boston road (see Ludlow reservoir)	24	—	....	....	....	
do. Jasper st. to Coleman	6	....	....	217	....	
do. east from Coleman st.	6	....	....	240	....	457
Bowdoin st., St. James ave. to Worthington st.	4	....	....	1,202	....	
do. north from Worthington	6	....	....	833	....	2,035
Bowles st., Catharine to McKnight	2	700	....	....	....	
do. McKnight to Bay	4	....	....	811	....	1,511
Boylston st.	6	....	....	....	934	934
Brace st.	6	....	....	378	....	378
Bradford st., North Main to Fulton	6	....	....	....	1,011	1,011
do. west from North Main	6	....	....	67	....	67
Bridge st., Water to Main	6	....	....	....	772	
do. Main to Chestnut	6	....	....	....	1,149	1,921
do. Main to Water	6	....	....	873	....	
do. east from Main.	6	....	....	211	....	
do. east from Dwight	6	....	....	135	....	1,219

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Brightwood ave, west from Plainfield st...	6	....	....	....	176	176
Broad st., west from Main.....	8	....	1,001	....	....	
do. east from Hanover.....	4	....	....	....	52	1,053
Brown st., Bay to Yale.....	6	....	....	564	....	564
Buckingham st., north from State..	6	670	....	....	....	
do. south from Bay.....	6	....	....	600	....	
do. Bay to Clarendon.....	4	....	....	806	....	2,076
Buckingham place.....	1½	338	....	....	....	338
Buena Vista Plaza, west from Long Hill st. (P.) (S. R.-10,533).....	2	423	....	....	....	423
Burr st., east from Andrew.....	4	....	....	695	....	695
Butler st., Chestnut to Arbor.....	6	....	....	....	975	
do. east from Arbor.....	6	....	....	....	194	
do. east from 6″.....	4	....	....	....	346	1,515
do. crossing to Everett (proposed st.)....	4	....	....	....	197	197
Byers st.....	6	1,452	....	....	....	1,452
Calhoun st., North Main to North.....	6	....	....	....	750	
do. east from North.....	6	....	....	....	365	1,115
do. east from North Main.....	6	....	....	16	....	16
Cambridge st.....	6	....	....	1,601	....	1,601
Carew st., Main to North.....	16	....	875	....	....	
do. at North, east.....	16	....	....	....	5	
do. North to Chestnut.....	8	....	....	....	799	
do. Chestnut to Massasoit.....	6	....	....	....	601	
do. east from Massasoit....	6	....	....	....	350	2,630
do. east from Main.....	8	....	....	19	....	
do. Main to Chestnut (see Ludlow reservoir, "Main No. 2").....	20	....	....	—	....	
do. east from Chestnut (see Ludlow reservoir, "Main No. 2").....	24	....	....	—	....	
do. west from Armory (P) (S. R.-4869)....	1½	559	....	....	....	
do. east from Armory.....	6	....	....	11	....	569
Carew place, north from Carew st.....	4	....	....	....	166	166
Carlisle ave., so. from Wilbraham road.....	6	....	....	596	....	596
Cass st., Linden to Everett.....	4	...	....	....	359	359
do. Liberty to Franklin.....	6	....	....	628	....	628
Catharine st., State to Bay.....	12	....	....	1,771	....	
do. Bay to Dartmouth	12	....	....	190	....	1,961
Cedar st., Walnut to Pine.....	16	1,254	....	....	....	
do. west from Pine....	2	332	....	....	....	1,586
Cedar st., I. O.....	4	374	....	....	....	374
Center st., I. O., east from Oak.....	2	359	....	....	....	
do. west from Cedar..... ...	2	360	....	....	....	
do. west from 2″.....	1½	52	....	....	....	771
Central st., east from Main.....	4	....	....	....	482	
do. 4″ to Maple.....	6	....	937	....	....	
do. at Maple, west	6	....	....	....	22	1,441
do. Maple to Mill.....	8	....	....	4,035	....	4,035
Central st. ave., Central st. to Foster court.	6	....	....	292	....	292
Chapel st., east from Eastern ave.....	6	....	....	365	....	365
Chapin pond, at pumping station.....	8	....	....	163	....	
do. do.	12	....	....	299	....	462
Chapin st. (including Marion st. extension).	6	....	....	1,239	....	1,239
Charles st., south from Franklin.....	3	....	287	....	....	
do. north from Liberty.....	4	....	324	....	....	611
do. south from Liberty.....	4	....	....	204	....	204
Charter ave.....	2	370	....	....	....	370

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MAIN AND DISTRIBUTION PIPE.—Continued.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Chase ave., east from Fort Pleasant	6	....	....	622	....	622
Cherry st., south from Central	6	....	....	1,130	....	1,130
Cherryvale ave	6	....	....	731	....	731
Chester st., south from Central (P) (S. R.-6,931)	2	246	....	....	....	
do. south from 2″ (P) (S. R.-6,931)	1½	39	....	....	....	285
Chestnut st., brook to Jefferson ave	20	....	1,715	....	....	
do. at Jefferson ave. (north)	20	....	....	....	10	
do. Jefferson ave. to Franklin	12	....	....	....	3,325	
do. Franklin to East Taylor	8	....	....	....	1,540	
do. East Taylor to Worthington	6	....	....	....	335	
do. Worthington to Pearl	6	....	....	....	461	
do. Pearl to Edwards	6	....	....	....	567	
do. south from Edwards	3	....	208	....	....	
do. north from State	4	....	625	....	....	8,786
do. Eagle to Springfield	8	....	....	613	....	
do. north from Carew	12	....	....	26	....	
do. Carew to 12″ near Worthington, north	16	....	....	3,185	....	
do. 16″ to Worthington	12	....	....	63	....	
do. Worthington to Harrison ave	12	....	....	873	....	
do. Harrison ave to 6″	8	....	....	644	....	
do. 8″ to State st	6	....	....	360	....	5,758
Chestnut st., I. O., Hampden to Worcester	4	369	....	....	....	369
Chicopee Falls road, Ludlow, west from 30″ main	2	1,219	....	....	....	1,219
Church st., North Main to North	6	....	....	....	898	898
do. east from North Main	6	....	....	19	....	19
Churchill st	6	....	....	675	....	675
City Hall ave	4	....	....	131	....	131
Clarendon st., Bay to St. James ave	6	....	....	1,068	....	
do. north from Worthington (for hydrant)	6	....	....	12	....	
do. north from Worthington	2	233	....	....	....	1,313
Cleveland st	6	....	....	1,105	....	1,105
Clifford st	4	....	....	505	....	505
Clifton ave., south from Central st	4	....	....	504	....	504
Cliftwood ave	6	....	....	449	....	449
Clinton st., Main to Fulton	6	....	....	....	796	796
Clyde st., west from Plainfield	6	....	....	....	316	316
Coleman st., south from Boston road	6	....	....	652	....	652
College ave., State st. to Shattuck	6	....	....	833	....	
do. north from Shattuck	6	....	....	168	....	1,001
College st., State to Wilbraham road	8	....	....	567	....	567
Collins st., east from Eastern ave	6	....	....	539	....	539
Colton st., Wilbraham road to Beacon st	6	....	....	1,680	....	1,680
Columbia terrace, north from Liberty st	6	....	....	246	....	246
Commonwealth ave., Walden st. to beyond Washington	6	....	....	1,326	....	1,326
Concord st., south from Rimmon ave	2	295	....	....	....	295
Concord terrace, no. from Wilbraham road	2	202	....	....	....	202
Congress st., Main to near Chestnut	6	....	....	....	1,533	
do. west from Chestnut	4	....	....	....	60	1,593
Conn. River R. R., east line of location to east line of Plainfield st. (under tracks connecting Arch and Washburn sts)	6	....	....	....	226	226
Continental ave., south from Sumner	6	....	....	390	....	390
Cook's ave., Bridge st. to North Church ave	4	....	....	....	126	126

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Cornell place, north from Cornell st.	1½	106	....	....	....	106
Cornell st.	6	....	....	1,829	....	1,829
Cortland st., State to Shattuck	6	....	....	797	....	797
Cottage ave., east from Walnut st. (P) (S. R.-7,681-8,916)	1¼	169	....	....	....	
do. Walnut st. to Melrose	6	....	....	296	....	
do. north and east from Melrose st.	6	....	....	492	....	957
Court st., Main to Water	6	....	....	....	1,060	
do. at Water	8	....	....	....	4	1,064
do. west from Main	8	....	....	294	....	294
Crescent st., north from Springfield	6	....	....	384	....	384
Crosby st., west from Walnut	2	245	....	....	....	245
Cross st., west from Willow	1¼	....	142	....	....	
do. at Willow, east	6	....	....	12	....	
do. 6″ to Maple st.	4	....	....	605	....	759
Crystal ave.	6	....	....	937	....	937
Cypress ave., at Cypress st.	4	....	....	....	9	
do. north from Cypress st.	3	....	210	....	....	219
Cypress st., Main to Fulton	6	....	....	....	720	720
do. Main to Fulton	8	....	....	676	....	676
"D" st., east from North Main	6	....	....	561	....	561
Dale st., Union to William	6	....	....	....	400	
do. William to Winthrop	4	....	....	....	249	649
Dartmouth st., Bay to St. James ave.	12	....	....	1,036	....	1,036
Dartmouth terrace, west from St. James ave.	6	....	....	479	....	479
Davis st., Ludlow, south from Stebbins	1¼	237	....	....	....	237
Dawes st.	6	....	....	1,250	....	1,250
Dawson ave.	2	401	....	....	....	401
Demond ave.	6	....	....	....	922	922
do. at Fisk ave.	6	....	....	2	....	2
Dexter st., George to Knox (P) (S. R.-5,322)	2	719	....	....	....	719
Dickinson st., Oakland to Johnson	6	....	....	163	....	
do. at Johnson (or Parker ave.), east	6	....	....	15	....	
do. north from Sumner ave.	6	....	....	591	....	769
Donald st., at North Main	6	....	....	13	....	13
Dorchester st.	6	....	....	620	....	620
Douglas st., North Main to Birnie ave.	6	....	....	582	....	582
Dresden ave.	6	....	....	805	....	805
Dwight st., State to Bridge	6	....	....	....	1,565	
do. Bridge to Worthington	6	....	....	....	286	
do. crossing sewer at Worthington	6	....	....	....	45	
do. south from Lyman	6	....	....	....	49	1,945
do. State to Lyman (less 8″ crossing Worthington)	10	....	....	2,322	....	
do. crossing sewer at Worthington	8	....	....	28	....	2,350
Dymon st.	2	475	....	....	....	475
Eagle st., North Main to Chestnut	6	....	....	596	....	596
Earl st., Johnson to Bloomfield	2	299	....	....	....	299
East Court st.	4	....	....	584	....	584
Eastern ave., in State st., at 24″ main	8	....	....	18	....	
do. from gate at State st. 24″ main to Tyler st.	12	....	....	1,568	....	
do. Tyler street to Pendleton ave.	12	350	....	....	....	
do. Pendleton ave. to Melrose st.	8	....	....	2,509	....	4,445
East Hooker st., east from North Main	6	....	....	....	361	361
do. east from North Main	4	....	....	14	....	14
Edgeland ave., west from Fort Pleasant	6	....	....	488	....	488

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Edwards st	4	....	....	....	737	737
Elliott st	6	....	....	....	1,103	1,103
Elm st., Main to near Water	6	....	....	....	965	
do. east from Water	8¼	....	....	....	15	
do. west from Water (P) (S. R.-5,748)	1	....	395	....	....	1,375
do. west from Main	8	....	....	306	....	306
Elmwood st., west from Main	6	....	....	....	810	810
Emery st	6	....	....	....	724	724
do.	8	....	....	716	....	716
Essex st., Main to near Chestnut	6	....	1,625	....	....	
do. west from Chestnut	6	....	....	....	25	1,650
do. east from Main	6	....	....	14	....	14
Essex st., I. O., Myrtle to Pine	8	....	....	1,440	...	1,440
Euclid ave	6	....	....	1,163	....	1,163
Everett st., east from Chestnut	6	....	....	....	46	
do. east from 6″	4	....	1,204	....	....	
do. west from Cass	4	....	....	....	50	
do. east from Cass	4	....	....	....	302	1,602
Fairbanks ave., north from Worthington st.	4	....	....	....	261	261
Fairfield st., north from Garfield	6	....	....	934	....	934
Federal st., State to Armory	16	....	....	998	....	
do. Armory to Summer	8	....	....	1,500	....	2,498
Ferry street, east from Main	6	....	....	....	30	
do. east from 6″	4	....	459	....	....	
do. west from Chestnut	6	....	....	....	1,083	1,572
Fire reservoirs, sundry streets	4	....	....	....	31	
do. sundry streets	6	....	....	....	64	95
Firglade ave., Sumner to Pineywoods	6	....	....	1,050		1,050
Fisk ave., south from Wason	8	....	1,493	....	....	1,493
do. south from Wason	12	....	....	736	....	
do. south from 12″ Grace st. line	8	....	....	205	....	941
Florence st., Pine to Hancock	6	1,615	....	....	....	
do. east from Hancock	2	263	....	....	....	
do. west from Walnut	1	88	....	....	....	1,966
Florentine gardens	6	....	....	594	....	594
Florida street, north from Bay	6	1,520	....	....	....	
do. south from Worthington	6	....	....	14	....	
do. north from Worthington	6	....	....	850	....	2,384
Forest ave., Sumner to Walden st	6	....	....	752	...	752
Forest park, from Sumner ave. (P)(S. R.-9,099)	6	....	....	2,610	....	
do. for hydrants (P) (S. R.-9,099)	4	....	....	30	....	2,640
Forest st., Belmont ave. to Park ave	6	....	....	843	....	843
Fort st., Main to Water	6	....	....	....	715	715
do. west from Main (P) (S. R.-6,490)	4	....	....	76	....	76
Fort Pleasant ave., Mill st. to junction Belmont ave	12	....	....	167	....	
do. Belmont to Sumner	8	....	....	2,755	....	2,922
Foster court	6	....	....	762	....	762
Franklin st., Main to Chestnut	6	....	....	....	1,610	
do. east from Chestnut	6	....	....	....	219	
do. east from Charles	1¼	....	131	....	....	1,960
do. Main to Chestnut	8	....	....	1,583	....	
do. west from Cass	6	....	....	514	....	
do. east from Cass (P) (S. R.-6,651)	1¼	128	....	....	....	
do. east from Webster	6	....	....	83	....	
do. near Webster, east (con'g 6″ and 2″)	1	4	....	....	....	
do. 6″ to Liberty	2	1,340	....	....	....	3,652

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Fremont st., Main to Water	6	....	....	....	831	831
Fulton st., Cypress to Plainfield	6	....	....	....	3,530	
do. Plainfield to brow of Round Hill	6	....	....	....	456	3,986
Gardner ave	8	....	....	329	....	329
Gardner st., Main to Water	12	....	500	....	....	
do. west from Water	12	....	84	....	....	
do. west from 12″	8	....	399	....	....	
do. west from 8″	6	....	150	....	....	
do. east from Hanover	4	....	....	....	42	1,175
do. Gardner ave. to Hanover st	8	....	....	189	....	189
Garfield st	6	....	....	1,544	....	1,544
Genesee st., at Franklin	1¼	38	....	....	....	
do. north from 1¼″	6	....	....	194	....	232
George st., south from Pine (P) (S. R.-4,979)	2	354	....	....	....	
do. from private 2″ to Maple	2	336	....	....	....	690
Girard ave., Bay st. to McKnight	6	....	....	975	....	975
Gladwood ave	6	....	....	492	....	492
Grace st., North Main to Birnie ave	4	....	509	....	....	509
do. North Main to Birnie ave	12	....	....	690	....	
do. Birnie ave., crossing to Fisk ave	12	....	....	390	....	1,080
Granada terrace	6	....	....	1,189	....	1,189
Grant st	4	....	....	600	....	600
Granville st., Eastern ave. to Logan st	6	....	....	497	....	497
Gray's ave., north from Cypress	6	....	....	....	358	
do. north from 6″	4	....	221	....	....	
do. south from Emery st	6	....	....	....	14	593
Greene st., Hancock to Eastern ave	6	....	....	1,363	....	1,363
Greene st. ave., north from Greene st	2	200	....	....	....	200
Greenleaf st	6	....	....	666	....	666
Greenwood st., east from Main	6	....	....	....	1,271	
do. west from Chestnut	4	....	....	....	337	1,608
Grosvenor st., north to Chestnut	6	....	....	....	773	773
Grove st., west from East Hooker	6	....	....	....	388	388
do at North Main (east and west)	6	....	....	32	....	32
Grover st	6	....	....	1,380	....	1,380
Gunn square, south side, east from Northampton ave	1¼	142	....	....	....	142
Hall st., Belmont ave. to Dickinson st	6	....	....	997	....	997
Hampden st., at Main	12	....	....	....	28	
do. cast-iron to Water st	12	....	672	....	....	700
do. Main to Water	8	....	....	660	...	660
Hampden st., I. O., Chestnut to Myrtle	4	750	....	....	....	
do. Myrtle to 6″	4	....	....	662	....	
do. 4″ to Oak st	6	....	....	35	....	1,447
Hampshire street, I. O	4	....	....	1,829	....	1,829
Hancock ave	6	....	....	636	....	636
Hancock st., State to Lebanon	16	2,400	....	....	....	
do. Lebanon to Walnut	12	....	....	930	....	
do. Florence to Hancock ave	6	....	....	576	....	
do. Hancock ave. to Central st	6	....	....	550	....	
do. at Central (south)	8	....	....	3	....	
do. south from Central	4	....	....	225	....	
do. south from 4″	6	....	....	412	....	5,096
Hanover st., Gardner to Broad	4	....	...		513	513
do. Gardner to York	8	....	....	789	....	789
Harriet st., Chestnut to North	6	....	...	....	390	390

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought Iron. High Service	Cement-Lined or Wrought Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Harris road, Ludlow, north from North st..	6	....	....	1,763	...	1,763
Harrison ave., Main st. to Dwight	6	....	....	....	649	649
do. Main st. to Chestnut	12	....	....	895	....	
do. at Main st	6	....	....	25	....	
do. west from Dwight	6	....	....	173	....	1,093
Harvard st., Yale to St. James ave	6	....	....	947	....	
do. St. James ave. to Cornell st	6	....	....	716	....	1,663
Hawley st	6	515	....	....	....	515
Hawthorn place, Sumner ave. to Park ave..	6	....	....	851	....	851
Hawthorn st., Spruce to Hancock	4	....	....	568	....	568
Hayden st	4	....	....	1,095	....	1,095
Hebron st., North to Chestnut	6	....	....	....	746	746
Heywood ave., south from Liberty st., (P) (S. R.-6,720)	6	....	....	257	....	257
Hickory st., east from Central	2	488	....	....	....	
do. east from Walnut st. main	6	125	....	....	....	
do. from east line of Walnut to Alden (including crossing private land to a point 154 feet west of cor. Alden and Hickory sts.)	4	....	....	2,613	....	
do. Alden to Woodbine ave	4	....	....	550	....	
do. at Woodbine ave., east	4	....	....	11	....	
do. east from Woodbine ave	3	799	....	....	....	
do. 3″ to Carlisle branch, east	1½	1,501	....	....	....	
do. east from 1½″	1	13	....	....	....	6,100
High st., Maple to School	6	....	....	807	....	
do. School to Walnut	6	1,854	....	....	....	2,661
Highland st., Allen to Orange	6	....	....	1,537	....	1,537
Hillman st	8	....	....	692	....	692
Hillside place, east from Richelieu st. (P) (S. R.-8,946)	2	....	120	....	....	120
Holyoke st	6	....	....	....	874	874
do. west from Main	6	....	....	86	....	86
Homer st	6	....	....	644	....	644
Hooker st., west from North Main	6	....	....	14	....	14
Howard place, south from Howard st	4	....	....	....	160	160
Howard st., Main to Water	6	....	....	....	994	
do. west from Water	2	....	420	...	....	
do. west from Water	6	....	362	....	....	1,776
do. west from Water	6	....	....	42	....	
do. near Water (west) to railroad	4	....	....	304	....	346
Howard st., Ludlow, east from North (P) (S. R.-5,629)	1½	441	...	....	....	441
Hubbard ave., Main to Dale	6	....	....	....	621	621
Hyde ave., east from Plainfield st	6	....	....	....	17	17
do. at Fisk ave	4	....	....	7	....	
do. west from 4″	6	....	....	930	....	937
Hydrants, sundry streets	4	....	952	....	1,537	
do. sundry streets	6	....	....	....	395	2,884
do. sundry streets	4	....	....	3,674	....	
do. sundry streets	6	....	....	2,902	....	
do. sundry streets	8	....	....	169	....	6,745
Indian Orchard road (see Ludlow reservoir).	24	—	....	...	....	
Ingersoll grove, Worthington st. to Bowdoin	6	....	....	1,433	....	1,433
James st	4	....	....	959	....	959
Jasper st	6	....	....	1,079	....	1,079

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Jefferson ave., at North Main st	8	....	....	....	10	
do. 8″ to North st	12	....	....	....	876	
do. North st. to Chestnut	16	....	482	....	....	1,368
do. at North Main st	12	....	....	15	....	
do. 12″ to North st	6	....	....	792	....	807
John st., east from Fulton	6	....	....	....	419	
do. west from Plainfield	4	....	....	....	259	678
Johnson st	6	....	....	1,930	....	1,930
Keith st	6	....	....	1,102	....	1,102
Kenwood ave., south from Bellevue	6	....	....	23	....	23
Kenwood park	6	....	....	778	....	778
Kibbe ave., south from Summer st	6	....	....	....	38	
do. north from Worthington st	6	....	202	....	....	240
do.	8	....	....	240	....	240
King st., Walnut to Hancock	4	....	....	995	....	
do. Hancock to Eastern ave	6	....	....	1,365	....	
do. east from Eastern ave	6	....	....	455	....	
do. Wilbraham ave to Westford	6	....	....	523	....	3,338
King st. ave., King st. to Lebanon	2	367	....	....	....	
do. at Lebanon st	1	7	....	....	....	374
Knox st., Mill to Dexter (P) (S. R.-5,464)	2	674	....	....	....	674
Ladd st	6	....	....	513	....	513
Lafayette st	6	....	....	620	....	620
Laurel ave., west from Plainfield st	6	....	....	....	674	674
La Verne ave., south from Bellevue	6	....	....	26	....	26
Lebanon pl., so. from King st. (P) (S. R.-5,016)	1¼	336	....	....	....	336
Lebanon st., Walnut to Hancock	16	630	....	....	....	
do. Hancock to Eastern ave	6	....	....	1,377	....	2,007
Lenox st	6	....	....	447	....	447
Lexington ave	6	....	....	....	666	
do. (north side) east from Chestnut st. (P) (S. R.-4,548)	2	....	323	....	....	
do. (south side) east from Chestnut st. (P) (S. R.-4,880)	2	....	195	....	....	1,184
Liberty st., east from Main	6	....	....	....	1,195	
do. 6″ to Chestnut	4	....	....	....	276	
do. east from Chestnut	6	....	1,800	....	....	3,271
do. Main to Chestnut	6	....	....	1,424	....	
do. west from Chestnut (P) (S. R.-4,909)	2	212	....	....	....	
do. Chestnut to Heywood ave	6	....	....	2,613	....	
do. Heywood ave. to Armory st	8	....	....	1,950	....	
do. east from Armory	6	....	....	24	....	
do. Cleveland to Carew	8	....	....	722	....	6,945
Lillian st., Oak to Orleans	4	....	....	440	....	440
Lincoln st	6	....	....	804	....	804
Linden st., east from Chestnut	6	....	....	....	34	
do. east from cast-iron	4	....	1,266	....	....	
do. west from Cass	4	....	....	16	....	1,316
Litchfield st., Belmont ave. to Garfield st	6	....	....	421	....	421
Locust st., Main to near Mill	12	732	....	....	....	
do. north from Mill	12	....	....	25	....	757
Logan street, at Olive (for flush gate)	6	....	....	10	....	10
LOMBARD RESERVOIR,—to Armory st.	6	....	2,137	....	....	2,137
Lombard st	4	....	....	....	658	658
Long Hill st., South st. to Cherryvale ave.	8	....	....	2,867	....	
do. Cherryvale ave. to opposite E. H. Barney's house	2	1,431	....	....	....	298

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Loring st., at Water	8	....	....	....	9	
do. east from Water	6	....	....	....	678	687
do. Main to Water	8	....	....	789	....	789
Lowell st	6	....	....	....	1,372	1,372
LUDLOW RESERVOIR, as follows:						
Supply Main No. 1.						
Gatehouse to Higher brook	24	....	....	3,736	....	
Higher brook to Federal st. (less 215 feet *cast-iron* under tracks of B. & A. R. R., as below)	24	52,460	....	....	...	
Federal to Spring, 1,773 feet (see State st)	16	—	....	....	....	
Spring to Main, 2,026 feet (see State st)	16	....	....	—	....	
Under Athol branch tracks of B. & A. R. R.	24	....	....	135	....	
Under main tracks of B. & A. R. R.	24	....	....	80	....	56,411
Supply Main No. 2.						
Gatehouse, through dam	30	....	....	120	....	
Dam to intersection of Main No. 1	36	....	....	13,388	....	
Intersection of Main No. 1 to 24″ (in Carew street)	30	....	....	39,899	....	
30″ (in Carew st.) to Chestnut st.	24	....	....	2,380	....	
Chestnut st. (in Carew st.) to Main st.	20	....	....	1,670	....	57,457
At Reservoir.						
Distributing canal to cut-off basin	36	....	....	36	....	
Under cut-off dam	36	....	...	132	....	
At Cherry Valley drain gate	20	....	...	36	....	204
Lyman st., Main to Chestnut	8	....	....	....	1,369	
do. east from Chestnut	8	....	....	....	230	
do. east from 8″ cast-iron	6	....	112	....	....	
do. west from Spring	6	....	....	....	436	2,147
do. Main to Dwight	6	....	....	850	....	
do. Dwight to Chestnut	8	....	....	475	....	
do. Chestnut to Spring	6	....	....	768	....	2,093
Madison ave., north from Central st.	6	....	....	556	....	556
Magazine st., Grant to Armory	4	....	....	638	....	638
Magnolia terrace, Sumner ave. to Pineywoods	6	....	....	964	....	964
Main st., Carew to Liberty (south)	16	....	2,415	....	....	
do. Liberty (south) to Lyman (north)	16	....	....	....	318	
do. Lyman (north) to Hampden	15	....	242	....	....	
do. Hampden to Central	12	....	....	....	4,340	
do. Central to Locust	12	....	2,018	....	...	
do. Locust to Mill	6	....	830	....	....	
do. at Hampden (from 12″, for fire reservoir)	6	....	....	....	22	10,185
do. Carew to State	16	....	....	5,210	....	
do. State to Locust	12	....	....	4,143	....	
do. Mill to Mill river	12	....	....	310	....	
do. at Carew (between high and low)	6	....	....	25	....	
do. at Bridge (between high and low services, and sewer man hole)	6	....	...	24	....	9,712
Main st., I. O., west from Myrtle	8	....	....	510	....	
do. Myrtle to beyond Cedar (see Ludlow reservoir)	24	—	....	....	....	
do. at 24″ main, east	8	....	....	24	....	
do. from 24″ main to Wilbraham line	6	....	....	3,930	....	4,464

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
MAIN SUPPLY PIPES—(see "Lombard reservoir," "Ludlow reservoir," and "Van Horn reservoir")	—	—	—	—	—	
Manhattan st., Walnut to Eastern ave	6	....	....	1,120	....	1,120
Maple ave., east from Maple st	6	....	....	392	....	392
Maple st., State to Central	6	....	....	....	2,138	2,138
do. Stockbridge to Union	6	....	...	857	....	
do. Union to Central	8	....	....	1,235	....	
do. Central to Pine	6	1,753	....	....	....	
do. op. No. 310 (connecting 6″ and 4″)	4	....	....	15	....	
do. opposite No. 310 to near Pine (east)	4	....	....	650	....	
do. near Pine (east) to Mill	4	756	....	....	....	5,266
Maple st., Ludlow, east from Harris road	6	...	....	432	....	432
Mapledell st	6	....	....	1,013	....	1,013
Maplewood terrace	6	....	....	1,378	....	1,378
Marble st	8	....	....	....	1,084	1,084
Marengo ave	6	....	....	1,350	....	
do. south side of Marengo park	2	590	....	....	....	1,940
Margaret st., Main to Water	6	...	....	....	884	
do. west from Water	4	....	....	....	566	1,450
do. west from Water	6	....	....	531	....	531
Marion st., Bay to McKnight	6	....	....	889	....	889
Market st., State to Harrison ave	6	....	....	....	1,058	1,058
do. State to Sanford	6	...	....	298	....	
do. south from East Court (P) (S. R.-4,262)	3	90	....	....	....	
do. south from Townsley ave	4	....	....	95	....	483
Marlborough st., east from Norfolk	1½	86	....	....	....	86
Massasoit st., Carew to Montmorenci	6	....	....	....	1,921	
do. north from Montmorenci (P) (S. R.-6,519)	1½	....	158	....	....	2,079
do. at Carew (for hydrant)	6	....	....	50	....	50
Mattoon st., at Chestnut	6	....	....	....	24	
do. 6″ to Elliott st.	4	....	601	....	....	625
do. west from Elliott	6	....	....	362	....	362
Maynard ave., south from Shattuck	6	....	....	612	....	612
McKnight st., Sherman to Bowles	4	....	....	507	....	
do. Bowles to Girard ave	6	....	....	414	....	921
Mechanic st., west from Water	6	....	....	....	35	
do. west from 6″	2	....	353	....	....	388
Mechanics row, south from Bliss st	2	....	69	....	....	69
Melrose st., Eastern ave. to Cottage	6	....	....	740	....	740
Mero st., Ludlow, east from Harris road	6	....	....	489	....	489
Merrick ave., King st. to Lebanon	2	348	....	....	....	
do. at Lebanon st	1	24	....	....	....	372
Merwin st	6	....	....	730	....	730
Middlesex st., south from Wilbraham road	6	....	....	354	....	354
Mill st., U. S. Watershops to Central	8	....	....	400	....	
do. Pine to Locust	16	1,157	....	....	....	
do. Locust to Main	12	....	....	581	....	2,138
Milton st., I. O., south from Main	6	....	...	694	....	
do. south from 6″ (P) (S. R.-10,779-10,780)	1¼	203	....	....	....	897
Monmouth st., Berkeley to Yale	6	....	....	479	....	
do. Yale to Dorchester	4	....	....	683	....	1,162
Monroe st., east from Hancock	6	...	....	824	....	
do. from cast-iron to Hawley	6	154	....	....	....	
do. Hawley to Colton	6	....	....	730	....	1,708

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Monson ave., north from Greene st	2	199	....	....	....	199
Montmorenci st	6	....	....	....	678	678
Montrose st., south from Burr	6	....	....	978	....	978
Moore ave., west from Plainfield st	6	....	....	....	663	663
Morgan st., east from North Main	6	....	....	....	178	
do. east from 6″	4	....	....	....	63	
do. from 4″ to near North st	6	....	....	....	580	
do. west from North	4	....	....	....	75	896
do. east from North Main	6	....	....	21	....	21
Morris st., east from Main	6	....	....	....	784	
do. 6″ to Central	8	....	....	....	326	1,110
Mulberry st., east from Maple (for S. R.-4,957)	2	445	....	....	....	
do. west from School (P) (S. R.-3,708)	1	220	....	....	....	
do. School to Union	6	1,380	....	....	....	2,045
Myrtle st	4	....	....	548	....	548
Myrtle st., I. O., Main to Berkshire (see Ludlow reservoir)	24	—	....	....	....	
do. Berkshire to Essex	8	....	....	627	....	627
National ave., south from Sumner ave	6		....	388	....	388
Nelson ave., King st. to Lebanon	2	358	...	....	....	
do. at Lebanon st. (north)	1	17	....	....	....	
do. Lebanon st. to Greene	2	411	.	....	....	786
New st., west from Dwight	2	....	180	....	....	180
Newland st., west from Plainfield	6	....	....	....	796	796
Noel ave., west from Highland st	6	....	...	671	....	671
Norfolk st., south from Wilbraham road	6	....	....	1,284	....	1,284
North st., Carew to Jefferson ave	16	....	....	2,000	....	
do. north from Jefferson ave. (P) (S. R.-7,324)	2	....	208	....	....	
do. south from Calhoun	1¼	....	181	....	....	
do. Calhoun to Waverly	6	....	....	....	696	3,085
do. at Carew (for hydrant)	6	....	....	51	....	51
Northampton ave., Wilbraham road to south side of Gunn square	6	....	....	1,660	....	1,660
North Church ave	4	...	....	....	400	400
North Main st., at Carew	8	....	....	....	16	
do. Carew to near Bancroft (north) (less cast-iron opposite No. 138-140)	8	....	2,100	....	....	
do. opposite 138-140	8	....	....	....	21	
do. near Bancroft (north) to near Hooker (north)	8	....	....	....	1,316	
do. near Hooker (north) to Wason ave. (less cast-iron at Thomas st., crossing Burt's brook)	8	....	2,641	....	....	
do. at Thomas st. (crossing Burt's brook)	8	....	....	....	52	
do. north from Wason ave	8	....	....	....	28	6,174
do. Carew to Grace	16	....	....	5,415	....	
do. at proposed street of Birnie and Adams	8	....	....	24	....	
do. at proposed street, midway Adams' nursery (west)	4	....	....	14	....	
do. Grace to Chicopee line (P) (S. R.-7,948)	1¼	1,740	...	....	....	7,193
Norwood st	6	....	...	....	1,016	1,016
Oak st	6	1,450	....	....	....	1,450

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Oak st., I. O., north from Main	4	....	....	362	....	
do. Main to Hampshire	6	....	....	1,336	....	
do. south from Hampshire	4	....	....	961	....	
do. west and north from Parker	6	....	....	2,328	....	
do. south from Main (for S. R.-10,003)	2	83	....	....	....	
do. so. from Worcester (for S. R.-6,671)	1¼	150	....	....	....	5,220
Oak Grove ave., north from State st	6	....	....	388	....	388
Oakland st., at Belmont ave	8	....	....	21	....	
do. 8″ to Orange st	6	....	....	1,872	....	1,893
Olive st	6	....	....	515	....	515
Orange st., Highland to White	6	....	....	1,581	....	
do. east from White	6	....	....	474	....	2,055
Orchard street	6	....	....	....	1,452	1,452
Orleans court, Oak st. to 1½″	1½	255	....	....	....	
do. 1½″ to Orleans st. (P) (S. R.-7,871-8,111)	1½	182	....	....	....	437
Orleans st., State to Union	4	....	....	755	....	
do. Union to Pendleton ave	6	....	....	858	....	1,613
Osgood st., east from North Main	4	....	925	....	....	
do. west from North	4	....	....	....	33	
do. at North	8	....	....	....	3	961
do. east from North Main	6	....	....	21	....	21
Oxford st., east from Fort Pleasant ave	6	....	....	26	....	26
Palmer ave., east from Locust st	6	....	....	307	....	
do. east from 6″ (P) (S. R.-5,695)	2	543	....	....	....	850
Park ave., Fort Pleasant to Sumner	6	....	....	2,649	....	
do. south from Sumner	6	....	....	403	....	
do. south from 6″	1¼	66	....	....	....	3,118
Park st., east from Willow	3	....	....	....	224	
do. east from 3″	6	....	....	....	202	
do. 6″ cast-iron to Maple	6	....	314	....		
do. at Maple	6	....	....	....	30	770
Parker ave., south from Dickinson st	6	....	....	448	....	448
Parker st., Main, I. O., to Oak, I. O	6	....	....	3,677	....	
do. south from Oak, I. O	4	....	....	920	....	4,597
Pasadena ave., White st. to Johnson	6	....	....	790	....	
do. south from Johnson st	6	....	....	219	....	1,009
Pasco st., I. O., south from Essex	6	....	....	405	....	405
Patton st., east from Main	4	....	....	....	810	
do. west from Chestnut	6	....	....	....	881	1,691
do. east from Main	6	....	....	16	....	16
Pearl st., Chestnut to Spring	6	....	....	....	992	992
do. Spring to Byers	6	....	....	296	....	
do. Byers to Federal	4	....	....	2,150	....	2,446
Pendleton ave., Walnut st. to Hancock	8	1,290	....	....	....	
do. Hancock st. to Eastern ave	6	....	....	1,356	....	2,646
Pine st., Walnut to Cedar	6	....	....	1,679	....	
do. Cedar to Mill (less 24″)	16	2,660	....	....	....	
do. south from Maple	24	114	....	....	....	4,453
Pine st., I. O., Main to beyond Chapman Valve Mfg. Co.'s shops	6	....	....	1,807	....	1,807
Pine st. court	2	365	....	....	....	365
Pineywoods ave	6	....	....	1,753	....	1,753
Plainfield st., north from Bradford	6	....	....	....	17	
do. near Bradford to John	4	....	....	....	276	
do. John to Fulton	6	....	....	....	1,072	
do. Lowell to Washburn	6		....	....	278	
do. Washburn to Wason ave	8	....	....	....	4,482	6,125

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Pleasant st., State to Bay	4	500	....	....	....	500
Plymouth st	6	....	....	....	500	500
Pomona ave., Sumner to Granada terrace, north	6	....	....	612	....	612
Portsmouth st., east from Eastern ave	6	....	....	243	....	243
Princeton st., Bay to Cornell	6	....	....	1,877	....	1,877
Prospect st., Chestnut to Massasoit	4	....	....	....	614	614
Pynchon st., at Water	8	....	....	....	15	
do. east from 8″	6	....	....	....	16	
do. east from 6″	3	....	....	....	800	
do. from 3″ to Main st	6	....	....	....	35	866
do. west from Main	8	....	....	355	....	355
Queen st., east from Walnut	4	....	....	420	....	
do. west from Hancock	6	....	....	356	....	776
Quincy st., Oak to Hancock	6	....	....	1,427	....	
do. west from Hancock st. main	8	....	....	11	....	
do. east from Hancock st. main	8	....	....	8	....	
do. Hancock to Eastern ave	6	....	....	1,370	....	
do. east from Eastern ave	6	....	....	317	....	3,133
Railroad st., west from Main	6	....	....	....	234	
do. east from Water	1¼	....	284	....	....	518
Randall ave., north from Allen st	4	....	....	212	....	212
Raymond ave., north from Carew st. (P) (S.R.-8,618)	2	158	....	....	....	
do. north from private pipe	2	100	....	....	....	258
Reed st., south from State (P) (S. R.-5,637)	2	690	....	....	....	
do. at Wilbraham road	6	....	....	9	....	699
Richelieu place, east from Richelieu st. (P) (S. R.-8,627)	2	....	145	....	....	145
Richelieu st., south from Adams	4	....	....	....	414	414
Ridgewood place	6	....	....	587	....	587
Ridgewood terrace, north from Mulberry st. (P) (S. R.-8,913)	2	286	....	....	....	286
Rimmon ave., west from Gladwood	6	....	....	1,038	....	1,038
Ringgold st., North to Chestnut	6	....	....	....	753	753
Ripley ave	2	204	....	....	....	204
Rutland ave., north from Wilbraham road	1¼	141	....	....	....	
do. north from 1½″	3	37	....	....	....	178
Rutledge ave., east from Main st	6	....	....	....	530	530
Sackett's ave., at Worthington st. (P) (S. R.-9,638)	1	10	....	....	....	
do. south from 1″ at Worthington st. (P) (S. R.-9,638)	1¼	190	....	....	....	200
Salem st., Spring to Elliott	6	....	....	....	390	390
do do	6	....	....	434	....	434
Sanford st., east from Main	6	....	....	....	70	
do. west from Market	4	....	....	....	90	
do. Market to Dwight	6	....	....	....	392	552
do. Market to Dwight	6	....	....	394	....	
do. at Dwight st. main	4	....	....	6	....	400
Sargeant st	6	....	....		963	963
do. west from Main	6	....	....	194	....	194
School st., State to High	6	560	....	....	....	
do. High to Mulberry	4	937	....	....	....	1,497
Seventh st., west from Main	4	....	702	....		
do. east from Fulton	6	....	....	....	224	926
do. west from Main	6	....	....	88	....	88

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Shamrock ave., west from Highland st	2	161	....	....	....	
do. south from Noel ave	6	....	....	229	....	390
Sharon st., Main to Chestnut	6	....	1,585	....	....	1,585
Shattuck ave., College to Cortland st	6	....	....	967	....	967
Sheldon st., west from North Main	4	....	341	....	....	341
do. at North Main	6	....	....	12	....	12
Sheridan ave., south from Morgan st	2	....	162	....	....	
do. south from 2″	1½	....	54	....	....	216
Sherman st., State to Bay	4	....	....	1,600	....	
do. Bay to opposite No. 164 (P) (S. R.-3,615-3,701)	1	112	....	....	....	1,712
Silver st., east from Armory	4	....	....	573	....	573
Smith st., Maple to Dorne	4	....	....	302	....	302
Sorrento ave., north from Sumner	6	....	....	259	....	259
South st., Mill river to Long Hill st	12	....	....	600	....	
do. south from Long Hill st	8	....	....	1,167	....	
do. south from 8″	6	....	....	411	....	2,178
Spring st., State to near Summer	6	....	2,075	....	....	
do. near Summer to Lyman	6	....	....	....	350	2,425
do. State to Lyman	6	....	....	2,373	....	2,373
Springfield st., to Chestnut (at brook)	20	....	850	....	....	850
do. east from Chestnut	8	....	....	414	....	
do. west from Armory	8	....	....	240	....	654
Spruce st	4	735	....	....	....	735
Spruceland ave., Long Hill st. to Magnolia terrace	6	....	....	1,109	....	1,109
State st., west from Water	6	....	....	....	165	
do. west from 6″ cast-iron	1¼	....	31	....	....	
do. Water to Main	6	....	....	....	993	
do. east from Main	6	....	....	....	50	
do. near Main to Maple	8	....	....	....	772	
do. Maple to Elliott	6	....	....	....	783	
do. Elliott to Spring	6	....	349	....	....	3,143
do. west from 4″ (west of Water) (P) (S. R.-5,795-5,918)	2	244	....	....	....	
do. west from Water	4	....	....	330	....	
do. Water to near Main	8	....	....	923	....	
do. west from Main	12	....	....	12	....	
do. Main to Spring	16	....	....	2,026	....	
do. Spring to Federal	16	1,773	....	....	....	
do. east from Federal (see Ludlow reservoir)	24	—	....	....	....	
do. Catharine to Eastern ave., (south of 24″ main—for Catharine st)	12	....	....	138	....	
do. west from College (south of 24″ main—for College st)	8	....	....	93	....	5,539
Stebbins st., State to Union	4	....	....	776	....	776
Stebbins st., Ludlow, west from Harris road	6	....	....	470	....	470
Sterns terrace, north from Central st	2	475	....	....	....	475
St. James ave., State st. to Bay	8	200	....	....	....	
do. Bay to Thompson	6	....	....	1,640	....	
do. Thompson to near Dartmouth	6	....	....	1,054	....	
do. south from Dartmouth	8	....	....	12	....	
do. north from Dartmouth	6	....	....	12	....	
do. near Dartmouth to near Lafayette	8	....	....	1,321	....	
do. near Lafayette to Dorchester	6	....	....	174	....	4,413

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Stockbridge st., Main to Willow	6	....	....	....	368	368
do. Maple to Willow	6	....	....	470	....	470
Suffolk st., south from Wilbraham road	6	....	....	1,385	....	1,385
Sullivan st., east from Armory	6	....	....	380	....	380
Summer st., east from Spring	6	....	....	....	43	
do. from 6″ to Autumn st	3	....	644	....	....	
do. Autumn st. to Kibbe ave	8	....	....	....	1,221	
do. north to site of old Athol engine house	4	....	....	....	210	2,118
do. Kibbe ave. to Federal st	8	....	....	891	....	
do. Federal to Armory	8	....	....	300	....	1,191
Sumner ave., Long Hill st. to Fort Pleasant ave	6	....	....	668	....	
do. Fort Pleasant to Belmont	8	....	....	4,440	....	
do. east from Belmont	8	....	....	1,291	....	6,399
Symonds ave., Worthington st. to North Church ave	4	....	....	....	150	150
Talcott ave., east from Plainfield st	6	....	....	....	735	
do. cast-iron to Fisk ave	6	....	42	....	....	777
Taylor ave., west from Willow st	2	....	197	....	....	197
Taylor st., east from Chestnut	2	....	350	....	....	350
do. Main to Dwight	8	....	....	843	....	
do. east from Dwight	8	....	....	383	....	
do. 8″ to Chestnut	6	....	....	44	....	1,270
Temple st., Maple to School	4	....	....	1,137	....	1,137
Tenth st., Main to Chestnut	6	....	....	....	1,625	1,625
do. east from Main	6	....	....	25	....	25
Terrence st	4	815	....	....	....	815
Thomas street	6	....	....	....	632	632
do. at North Main	6	....	....	44	....	44
Thompson st., State to Saint James avenue	8	1,540	....	....	....	
do. St. James avenue to Worthington st	8	....	....	716	....	2,256
Townsley ave	6	....	....	174	....	174
Tyler st., Oak to Hancock	6	1.440	....	....	....	
do. Hancock to Colton	6	....	....	1,689	....	3,129
Union st., railroad to near Water st	4	....	386	....	....	
do. west from Water	4	....	....	....	49	
do. Water to Main	6	....	....	....	968	
do. Main to Maple	6	....	....	....	1,155	2 558
do. Main to Willow	6	....	....	356	....	
do. Maple to School	6	....	....	665	....	
do. School to Hancock	8	3,925	....	....	....	
do. Hancock to Colton	6	....	....	1,686	....	6,632
VAN HORN RESERVOIR, from gatehouse through dam	12	....	....	....	200	
do. from gatehouse through dam	16	....	....	....	200	
do. dam to Springfield st	20	....	1,800	....	....	2,200
do. from Armory street (high service feeder)	6	....	....	278	....	278
Vassar street	6	....	....	542	....	542
Ventura ave	6	....	....	930	....	930
Vernon st., Main to Water	6	....	....	....	910	910
Vine st., Main to Fulton	6	....	....	....	823	823
do. west from Main	6	....	....	89	....	89

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	Cast-Iron. High Service	Cast-Iron. Low Service	Totals in Feet.
Vinton st., Liberty to near Franklin	6	....	....	641	....	641
Walden st., Forest ave. to Commonwealth	6	....	....	302	....	302
Walker ave., Liberty to Franklin	6	....	....	651	....	
do. at Franklin (connecting)	1	15	....	....	....	666
Walker st	6	....	619	....	....	619
do. Walker to Gardner ave	8	....	....	450	....	
do. Gardner ave. to railroad	6	....	....	223	....	673
Walnut st., State to Union	12	700	....	....	....	
do. Union to Cedar	8	2,087	....	....	....	
do. Cedar to Hancock	8	....	....	830	....	
do. Hancock to U. S. Watershops	12	....	....	1,510	....	5,127
Walter st., east from Birnie ave	2	....	251	....	....	251
do. at North Main	6	....	....	41	....	41
Waltham ave., south from Wilbraham road	6	....	....	537	....	537
Warner place	6	....	....	797	....	797
Warren ave., west from Hancock st	2	112	....	....	....	112
Warriner ave., east from Locust st	6	....	....	360	....	360
Warwick st., east from Heywood ave. (P) (S. R.-6,720)	6	....	....	386	....	
do. completion to Armory	6	....	....	867	....	
do. for hydrants (P) (S. R.-6,720)	4	....	....	24	....	1,277
Washburn st., west from east line of Plainfield	6	....	....	....	1,453	1,453
Wason ave., west from North Main st	8	....	707	....	....	
do. from 8″ to Fisk ave	12	....	....	....	213	
do. Fisk ave., to near Plainfield st	10	....	....	....	972	
do. east from Plainfield st	8	....	....	....	15	1,907
do. west from Birnie ave	8	....	....	93	....	
do. east from Fisk ave	12	....	....	15	....	
do. west from Fisk ave	8	....	....	14	....	122
Water st., Railroad st. to Hampden	6	....	....	....	308	
do. Hampden to Gardner	12	....	4,810	....	....	
do. Walker to Lombard (for fire reservoir, opposite Walker st.)	6	....	....	....	105	5,223
do. State to Howard	8	....	....	476	....	
do. Margaret to Walker	8	....	....	588	....	1,064
Waverly st., No. Main to near Chestnut	8	....	860	....	....	
do. near Chestnut to 12″	8	....	....	....	33	
do. 8″ to Chestnut	12	....	....	....	15	908
do. at North Main (east and west)	6	....	....	31	....	31
Webster ave., at Pearl st., north	4	....	....	....	6	
do. north from Pearl st	3	....	232	....	....	
do. south from Pearl st. (P) (S. R.-8,496)	1¼	....	142	....	....	380
Webster st., Liberty to Franklin	6	....	....	668	....	
do. north from Liberty (see S. R.-7,102-10,119)	1	262	....	....	....	930
Welcome place	6	....	....	252	....	252
Wellesley st	6	....	....	481	....	481
Wellington st., south from Wilbraham road	6	....	....	691	....	691
Wendell ave., east from Main st	6	....	....	....	465	465
Westford ave., Wilbraham road to King st.	6	....	....	2,160	....	2,160
Westminster st., State to Bay	6	1,100	....	....	....	
do. Bay to St. James ave	6	....	....	920	....	2,020
White st., south from Allen	6	....	....	2,587	....	2,587
Whitney ave., west from Water	4	....	....	....	419	419
Wight ave., east from Water	6	....	....	....	277	
do. east from 6″ (P) (S. R.-8,173)	1¼	....	209	....	....	486

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MAIN AND DISTRIBUTION PIPE.—CONTINUED.

LOCATION OF PIPE.	Size in Inches.	Length in Feet. Cement-Lined or Wrought-Iron. High Service	Cement-Lined or Wrought-Iron. Low Service	* Cast-Iron. High Service	* Cast-Iron. Low Service	Totals in Feet.
Wilbraham ave., south from Wilbraham road	6	....	....	1,597	....	
do. 6″ to King st. (extended)	8	....	....	542	....	
do. north from Alden st.	8	....	....	27	....	2,166
Wilbraham road, Eastern ave. to near Carlisle st., west	12	....	....	3,927	....	
do. 12″ to opposite house of Good Shepherd	8	....	....	1,631	....	
do. west from Reed st. (P) (S. R.-7,329)	1¼	153	....	....	....	5,711
Wilcox st., Main to Water	6	....	....	....	965	
do. at Water (east and west)	8	....	....	....	6	
do. Water to railroad	4	....	....	....	457	1,428
Willard ave., near State st., to Shattuck avenue	6	....	....	714	....	
do. at Shattuck ave., north	6	....	....	8	....	722
William st., railroad to Water	6	....	523	....	....	
do. Water to Main	6	....	....	....	945	
do. east from Main	6	....	....	....	23	
do. east from 6″	4	....	227	....	....	
do. west from Dale	6	....	....	....	388	2,106
do. east from Main	6	....	....	248	....	248
Willow st., State to Taylor ave.	6	....	....	....	630	
do. at Taylor ave.	4	....	....	....	3	
do. Taylor ave. to Park st.	3	....	....	....	153	786
do. State to Hubbard ave.	10	....	....	1,220	....	1,220
Winchester st.	4	543	....	....	....	543
Windsor ave	1½	485	....	....	....	485
Windsor st., east from Pine	2	679	....	....	....	679
Winthrop st.	6	....	....	....	697	697
Wolcott st., east from Liberty	6	....	....	306	....	306
Woodbine ave., north from Hickory st.	4	....	....	327	....	
do. north from 4″ (P) (S. R.-8,185)	1¼	192	....	....	....	519
Woodside ave.	6	....	....	449	....	449
Woodworth ave., State st. to High	2	457	....	....	....	457
Worcester ave., east from Plainfield st.	6	....	....	....	811	
do. west from Fisk ave.	4	....	....	....	52	863
Worcester st., I. O., Myrtle to Oak	6	....	....	735	....	
do. east from Oak	2	283	....	....	....	
do. east from Pine	6	....	....	576	....	1,594
Worthington st., Symonds ave. to Main st.	6	....	....	....	151	
do. Main to Chestnut	6	....	....	....	1,231	
do. Chestnut to Spring	6	....	....	....	883	
do. Spring to Kibbe ave.	6	....	1,857	....	....	4,122
do. west from Main	8	....	....	101	....	
do. Main to Dwight	8	....	....	795	....	
do. Dwight to near hose house	10	....	....	559	....	
do. near hose house to Federal st.	8	....	....	3,402	....	
do. Federal to Bowdoin	8	....	....	1,270	....	
do. Bowdoin to St. James ave.	12	....	....	1,654	....	7,781
Yale st., Dartmouth to Princeton	6	....	....	927	....	
do. north from Princeton	6	....	....	739	....	1,666
York st., west from Main	8	....	281	....	....	
do. west from wrought-iron	8	....	....	....	183	
do. west from 8″	6	....	....	....	497	961
Totals	....	126,703	59,840	418,442	134,612	739,597

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MAIN AND DISTRIBUTION PIPE.—CONCLUDED.

RECAPITULATION BY SIZES.

SIZES.	High Service.			Low Service.			Totals in Feet.
	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	Cement-Lined or Wrought-Iron.	Cast-Iron.	Total.	
1-inch	1,163	.....	1,163	260	.....	260	1,423
1¼-inch	5,029	.....	5,029	1,868	.....	1,868	6,897
1½-inch	3,072	.....	3,072	196	.....	196	3,268
2-inch	20,599	.....	20,599	3,349	.....	3,349	23,948
3-inch	926	.....	926	1,613	1,177	2,790	3,716
4-inch	5,779	39,122	44,901	9,090	12,385	21,475	66,376
6-inch	15,588	197,910	213,498	15,519	93,565	109,084	322,582
8-inch	10,317	73,721	84,038	9,482	16,983	26,465	110,503
10-inch	.....	4,101	4,101	.....	972	972	5,073
12-inch	1,782	25,142	26,924	8,084	8,997	17,081	44,005
16-inch	9,874	16,834	26,708	6,014	523	6,537	33,245
20-inch	.....	1,706	1,706	4,365	10	4,375	6,081
24-inch	52,574	6,331	58,905	.....	.....	.....	58,905
30-inch	.....	40,019	40,019	.....	.....	.....	40,019
36-inch	.....	13,556	13,556	.....	.....	.....	13,556
Totals	126,703	418,442	545,145	59,840	134,612	194,452	739,597

RECAPITULATION BY MATERIAL.

MATERIAL.	High Service.		Low Service.		Totals.	
	Feet.	Miles.	Feet.	Miles.	Feet.	Miles.
Cement-Lined or Wrought-Iron	126,703	24.00	59,840	11.33	186,543	35.33
Cast-Iron	418,442	79.25	134,612	25.50	553,054	104.75
Totals	545,145	103.25	194,452	36.83	739,597	140.08

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GATES SET IN 1898.

(INCLUDING THOSE ADDED.)

ONE AND ONE-QUARTER INCH.

Bliss street, end of 6″ pipe,	Low,	1	
Davis street, Ludlow, at Stebbins,	High,	1	
Genesee street, at Franklin (north),	High,	1	
Marlborough street, at Norfolk (east),	High,	1	
Railroad street, at Water,	Low,	1	
		—	5

ONE AND ONE-HALF INCH.

Hickory street, east of ice houses,	High,	1	
Orleans court, at Oak street,	High,	1	
		—	2

TWO INCH.

Allen street, east of Randall avenue (flush),	High,	1	
Benton avenue, at end of 6″ pipe,	High,	1	
Buena Vista Plaza, at Long Hill street (private) (acct. 1897),	High,	1	
Crosby street, at Walnut,	High,	1	
Dawson avenue, at Pasadena,	High,	1	
Dawson avenue, at White street,	High,	1	
Earl street, at Johnson (north),	High,	1	
Earl street, at Bloomfield (south),	High,	1	
Firglade avenue, near No. 148 (flush) (for sewer, north),	High,	1	
Firglade avenue, near No. 48 (flush) (for sewer, south),	High,	1	
Hickory street, near training school (flush),	High,	1	
Kenwood Park, near Dickinson street (flush),	High,	1	
Kenwood Park, north end of terrace (flush),	High,	1	
Long Hill street, at Cherryvale avenue (south),	High,	1	
Long Hill street, north of Spruceland avenue (flush),	High,	1	
Palmer avenue, end of 6″ pipe,	High,	1	
Spruceland avenue, at Long Hill street (flush),	High,	1	
Vine street, opposite No. 69 (flush),	Low,	1	
		—	18

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THREE INCH.

Acushnet avenue, opposite No. 82 (flush),	Low,	1	
Armory street, south of Liberty,	High,	1	
High street, for engine house, cor. Walnut (private),	High,	1	
Main street, for No. 577-581 (private),	High,	1	
Orange street, east of Highland (flush),	High,	1	
Shattuck avenue, at Willard (east) (flush),	High,	1	
State street, at Benton park, opp. No. 553 (Smith, flush),	High,	1	
		—	7

FOUR INCH.

Alden street, for schoolhouse (private),	High,	1	
Fairbanks avenue, at Worthington street,	Low,	1	
Garfield street, for schoolhouse (private),	High,	1	
Harrison avenue, at Main street, for fire reservoir,	Low,	1	
Hillman street, for No. 51-65 (elevator) (private),	High,	1	
Hillman street, for No. 51-65 (sprinklers) (private),	High,	1	
Main street, at Patton, for fire reservoir,	Low,	1	
Main street, I. O., for hydrant opposite French church,	High,	1	
Plainfield street, S. E. corner Abbe avenue, for schoolhouse (private),	Low,	1	
Salem street, at Elliott street (west),	Low,	1	
White street, near No. 202 (flush),	High,	1	
Willow street, at Hubbard avenue, for hydrant,	High,	1	
		—	12

SIX INCH.

Armory street avenue, at Armory street,	High,	1
Armory street court, at Armory street avenue,	High,	1
Bloomfield street, at Pasadena avenue,	High,	1
Brace street, at Belmont avenue,	High,	1
Bridge street, at Water, for fire reservoir,	Low,	1
Carew street, at Massasoit (east),	Low,	1
Chase avenue, at Fort Pleasant avenue,	High,	1

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Cherryvale avenue, at Spruceland,	High,	1
Cherryvale avenue, at Long Hill street,	High,	1
Clyde street, at Plainfield,	Low,	1
Columbia terrace, at Liberty street,	High,	1
Crystal avenue, at Belmont,	High,	1
"D" street, at North Main,	High,	1
Dickinson street, at Parker avenue (east),	High,	1
Edgeland avenue, at Fort Pleasant,	High,	1
Elliott street, at Salem,	Low,	1
Elliott street, at State,	Low,	1
Ferry street, at Main, for fire reservoir,	Low,	1
Firglade avenue, at Pineywoods (north),	High,	1
Firglade avenue, at Pineywoods (south),	High,	1
Florentine gardens, at Pineywoods avenue,	High,	1
Florentine gardens, at Spruceland avenue,	High,	1
Franklin street, at Cass (west),	High,	1
Grover street, at Armory,	High,	1
Harriet street, at Chestnut (Smith),	Low,	1
Harris road, Ludlow, at North street (Smith),	High,	1
Magnolia terrace, at Pineywoods avenue (north),	High,	1
Magnolia terrace, at Pineywoods avenue (south),	High,	1
Main street, at Franklin, for fire reservoir,	Low,	1
Maple street, Ludlow, at Harris road,	High,	1
Massasoit street, at Carew,	Low,	1
Mattoon street, at Chestnut,	Low,	1
Mero street, Ludlow, at Harris road,	High,	1
Orange street, at Highland (east),	High,	1
Orange street, at White (east),	High,	1
Palmer avenue, at Locust street,	High,	1
Park avenue, at Fort Pleasant,	High,	1
Parker avenue, at Dickinson street,	High,	1
Pasadena avenue, at White street,	High,	1
Pineywoods avenue, at Hawthorn place (west),	High,	1
Portsmouth street, at Eastern avenue,	High,	1
State street, at Maple (east),	Low,	1
State street, for new high school (private),	High,	1
Stebbins street, Ludlow, at Harris road,	High,	1
Walden street, at Commonwealth avenue,	High,	1
Walden street, at Forest avenue,	High,	1
Water street, at Hampden,	Low,	1
Willard avenue, at Shattuck (north),	High,	1

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Winthrop street, at Dale, ...	Low,	1	
Wolcott street, at Liberty, . . .	High,	1	
Worcester street, I. O., at Pine, . . .	High,	1	
		—	51

EIGHT INCH.

Fort Pleasant avenue, at Park avenue (south), .	High,	1	
		—	1

SIXTEEN INCH.

Mill street, at Locust (east), . . .	High,	1	
		—	1

Total number of gates added in 1898, . 97

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GATES TAKEN OUT IN 1898.

(INCLUDING THOSE ABANDONED.)

ONE AND ONE-QUARTER INCH.

Fort Pleasant avenue, at end of 8″ main, near No. 42,	High,	1	
Palmer avenue, at Locust street (private),	High,	1	
Vine street, opposite No. 69 (flush),	Low,	1	
		—	3

TWO INCH.

Long Hill street, at Spruceland avenue,	High,	1	
Palmer avenue, at Locust street (private),	High,	1	
		—	2

THREE INCH.

Carew street, at Massasoit (east),	Low,	1	
Elliott street, at State,	Low,	1	
Fairbanks avenue, at Worthington street,	Low,	1	
Mattoon street, at Chestnut,	Low,	1	
Railroad street, at Water,	Low,	1	
Salem street, at Elliott (west),	Low,	1	
		—	6

FOUR INCH.

"D" street, at North Main,	High,	1	
Worthington street, at Alert, for hydrant,	Low,	1	
		—	2

SIX INCH.

Sargeant street, near Fulton,	Low,	1	
State street, at Maple (east),	Low,	1	
Water street, at Railroad street, for hydrant,	Low,	1	
Worthington street, at Chestnut (east),	Low,	1	
		—	4
Total,			17

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Number of gates December 1, 1897, .		1,683
Number of gates added in 1898, . . .	97	
Number of gates taken out in 1898, . .	17	
Net addition in 1898, . . .		80
Total number of gates December 1, 1898,		1,763

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FIRE HYDRANTS SET IN 1898.

HIGH SERVICE.

Armory street court, S. E. corner Armory street avenue,	1
Bloomfield street, N. W. corner Pasadena avenue,	1
Bowdoin street, east side, near No. 57,	1
Brace street, N. W. corner Belmont avenue,	1
Carlisle avenue, east side, end of pipe,	1
Chase avenue, N. E. corner Fort Pleasant,	1
Chase avenue, N. W. corner Riverview,	1
Columbia terrace, west side, end of pipe,	1
Commonwealth avenue, 350 ft. south of Walden street,	1
Commonwealth avenue, 175 ft. south of Washington street,	1
Crescent terrace, in park at Fort Pleasant avenue,	1
Crystal avenue, S. W. corner Dickinson street,	1
"D" street, north side, end of pipe,	1
Edgeland avenue, north side, midway,	1
Franklin street, north side, midway Cass and Charles,	1
Grover street, N. E. corner Armory,	1
Hickory street, north side at No. 110,	1
Hickory street, north side at No. 130,	1
Hickory street, N. E. corner Woodbine avenue,	1
Locust street, N. E. corner Mill,	1
Long Hill street, N. E. corner Cherryvale avenue,	1
Main street, I. O., south side, at French church,	1
Main street, I. O., north side, midway Cedar and Johnson,	1
Milton street, I. O., S. E. corner Main,	1
Orange street, east of White, at end of pipe,	1
Orange street, north side, between Highland and White,	1
Palmer avenue, north side, 300 ft. east of Locust street,	1
Parker avenue, west side, end of pipe,	1
Pine street, north side, at Mill,	1
Pineywoods avenue, N. E. corner Firglade	1
Pineywoods avenue, N. W. corner Washington boulevard,	1
Willow street, N. E. corner Hubbard avenue,	1
Worcester street, I. O., north side, 600 feet east of Pine,	1
	33

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LOW SERVICE.

Bliss street, south side, at railroad,	1	
Carew street, N. W. corner Massasoit,	1	
Carew street, N. E. corner North (account 1897),	1	
Chestnut street, west side, opposite No. 55,	1	
Clyde street, N. W. corner Plainfield,	1	
Elliott street, S. E. corner Salem,	1	
Harriet street, N. E. corner North,	1	
Newland street, north side, end of pipe,	1	
North Main street, S. E. corner Morgan,	1	
Orchard street, north side, end of pipe,	1	
Sargeant street, south side, midway,	1	
Winthrop street, north side, midway,	1	
Winthrop street, N. W. corner Dale,	1	
Worthington street, south side, opposite Alert,	1	
Worthington street, S. W. corner Spring,	1	
	—	15
Total number of city hydrants set in 1898,		48

HIGH SERVICE—PRIVATE.

Harris road, Ludlow, for town of Ludlow,	4

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FIRE HYDRANTS TAKEN OUT IN 1898.

HIGH SERVICE.

Pine street, corner Mill,	1	
Willow street, N. E. corner Hubbard avenue,	1	
	—	2

LOW SERVICE.

Carew street, N. E. corner North (account 1897),	1	
Carew street, midway North and Chestnut (to correct error in report of 1897),	1	
Carew street, N. W. corner Massasoit,	1	
Chestnut street, opposite No. 55,	1	
North Main street, S. E. corner Morgan,	1	
Winthrop street, north side, midway,	1	
Elliott street, S. E. corner Salem,	1	
	—	7
Total number city hydrants taken out in 1898,		9

Number of city hydrants, as per report, December 1, 1897,		892
Number of city hydrants set in 1898,	48	
Number of city hydrants taken out in 1898,	9	
Net addition, 1898,		39
Total number of city hydrants, December 1, 1898,		931
{ High service, 673 / Low service, 258 }		

Number of private hydrants, December 1, 1897,	86	
Number of private hydrants set in 1898,	4	
Total number of private hydrants, December 1, 1898,		90

Total number of hydrants connected with the works, December 1, 1898,	1,021

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FIRE HYDRANTS

CONNECTED WITH THE WORKS.

No.	High or Low.	Location.	Make.
1.	H.	S. W. corner Main and Cypress streets.	Chapman
2.	L.	N. W. corner Main and Cypress streets.	Chapman
3.	H.	N. W. corner Cypress street and Cypress avenue.	Chapman
4.	H.	N. E. corner Gray's avenue and Cypress street.	Chapman
5.	L.	Gray's avenue, west side, midway.	Chapman
6.	L.	Boylston street, east side, between Cypress and Emery streets.	Chapman
7.	H.	N. E. corner Cypress and Boylston streets.	Chapman
8.	L.	N. E. corner Fulton and Cypress streets.	Perkins
9.	H.	N. E. corner Fulton and Cypress streets.	Chapman
10.	H.	N. E. corner Fulton and Emery streets.	Chapman
11.	L.	N. E. corner Fulton and Emery streets.	Chapman
12.	H.	N. E. corner Emery and Boylston streets.	Chapman
13.	H.	Emery street, north side, opposite Gray's avenue.	Chapman
14.	H.	S. W. corner Main and Emery streets.	Chapman
15.	H.	N. W. corner Main and Clinton streets.	Chapman
16.	L.	Clinton street, south side, midway.	Chapman
17.	L.	N. E. corner Fulton and Clinton streets.	Chapman
18.	L.	N. E. corner Fulton and Vine streets.	Chapman
19.	L.	Vine street, south side, midway.	Chapman
20.	H.	N. W. corner Main and Vine streets.	Chapman
21.	H.	N. W. corner Main and Holyoke streets.	Chapman
22.	L.	Holyoke street, north side, midway.	Chapman
23.	L.	N. E. corner Fulton and Holyoke streets.	Chapman
24.	L.	N. E. corner Fulton and Auburn streets.	Chapman
25.	L.	Auburn street, north side, midway.	Chapman
26.	H.	S. W. corner Main and Auburn streets.	Chapman
27.	H.	S. W. corner Main and Seventh streets.	Chapman
28.	L.	Seventh street, north side, midway.	Perkins
29.	L.	N. E. corner Fulton and Seventh streets.	Chapman
30.	L.	N. E. corner Fulton and Sargeant streets.	Chapman
31.	L.	Sargeant street, south side, midway, 6″ S. con.	Chapman
32.	H.	N. W. corner Main and Sargeant streets.	Chapman

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No.	High or Low.	Location.	Make.
33.	H.	N. W. corner No. Main and Bradford streets.	Chapman
34.	L.	Bradford street, north side, midway.	Chapman
35.	L.	N. E. corner Fulton and Bradford streets.	Chapman
36.	L.	N. E. corner Fulton and John streets.	Chapman
37.	L.	S. W. corner Plainfield and John streets.	Chapman
38.	L.	Plainfield street, west side, near Plymouth.	Chapman
39.	L.	Fulton street, opposite M. Dunn's house, Round Hill.	Chapman
40.	L.	Plainfield street, north side, at Fulton.	Chapman
41.	L.	N. W. corner Plainfield and Washburn streets.	Chapman
42.	L.	N. W. corner Plainfield and Lowell streets.	Chapman
43.	L.	Lowell street, north side, midway.	Chapman
44.	L.	Lowell street, north side, at end of street.	Chapman
45.	L.	Washburn street, north side, midway.	Chapman
46.	L.	Washburn street, north side, at end of street.	Chapman
47.	L.	Orchard street, north side, at end of street.	Chapman
48.	L.	Orchard street, north side, midway, 6″ S. con.	Chapman
49.	L.	Orchard street, N. W. corner Plainfield.	Chapman
50.	L.	Newland street, N. W. corner Plainfield, 6″ S. con.	Chapman
51.	L.	Newland street, north side, end of pipe, 6″ S. con.	Chapman
52.	L.	Clyde street, N. W. corner Plainfield, 6″ S. con.	Chapman
53.	L.	Plainfield street, east side, opposite Clayton.	Chapman
54.	L.	Abbe avenue, N. W. corner Plainfield street.	Chapman
55.	L.	Abbe avenue, just east of No. 154, 6″ S. con.	Chapman
56.	L.	Talcott avenue, N. E. corner Plainfield street.	Chapman
57.	L.	Talcott avenue, north side, midway.	Chapman
58.	L.	N. W. corner Fisk and Talcott avenues.	Chapman
59.	H.	S. W. corner Fisk and Worcester avenues.	Chapman
60.	H.	Fisk avenue, east end of Holyoke Card and Paper Co.'s shop.	Chapman
61.	H.	S. W. corner Fisk and Hyde avenues.	Chapman
62.	H.	S. W. corner Fisk and Demond avenues.	Chapman
63.	L.	N. W. corner Fisk and Worcester avenues.	Chapman
64.	L.	Worcester avenue, north side, midway.	Chapman
65.	L.	N. E. corner Plainfield street and Worcester avenue.	Chapman
66.	L.	Demond avenue, north side, midway.	Chapman
67.	L.	N. E. corner Plainfield street and Demond avenue.	Chapman
68.	H.	Hyde avenue, S. E. corner Plainfield street.	Chapman
69.	L.	N. E. corner Plainfield street and Hyde avenue.	Chapman
70.	L.	S. E. corner Plainfield street and Wason avenue.	Chapman

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No.	High or Low.	Location.	Make.
71.	H.	S. W. corner Wason and Fisk avenues.	Chapman
72.	L.	S. E. corner Wason and Fisk avenues.	Matthews
73.	L.	Wason avenue, north side, opposite No. 31.	Chapman
74.	H.	Birnie avenue, S. E. corner Wason, 6″.	Chapman
75.	L.	North Main street, opposite Wason avenue.	Chapman
76.	H.	Birnie avenue, 200 feet north of Grace street.	Chapman
77.	H.	S. E. corner Birnie avenue and Grace street.	Chapman
78.	L.	Birnie avenue, at the end of Grace street.	Ayers
79.	H.	S. W. corner No. Main and Grace streets.	Chapman
80.	H.	N. W. corner No. Main and Walter streets.	Chapman
81.	H.	Birnie avenue, S. E. corner Alfred street, 6″.	Perkins
82.	H.	Birnie avenue, S. E. corner Douglas street.	Chapman
83.	H.	Birnie avenue, just south of preceding.	Chapman
84.	L.	Birnie avenue, between the two preceding, 6″ S. con.	Chapman
85.	H.	Douglas street, N. W. corner No. Main.	Chapman
86.	H.	"D" street, north side, end of pipe, 6″ S. con.	Chapman
87.	H.	N. E. corner No. Main and Grove streets.	Chapman
88.	L.	N. W. corner No. Main and Hooker streets.	Chapman
89.	H.	East Hooker street, N. E. corner No. Main, 6″ S. con.	Chapman
90.	L.	N. E. corner No. Main and Calhoun streets.	Chapman
91.	H.	S. E. corner No. Main and Calhoun streets.	Chapman
92.	L.	... E. corner No. Main street and Jefferson avenue.	Chapman
93.	H.	Jefferson avenue, midway No. Main and North streets, 6″ S. con.	Chapman
94.	L.	Arch street, north side, front of No. 36.	Chapman
95.	H.	N. W. corner No. Main and Arch streets.	Perkins
96.	L.	Bancroft street, south side, midway.	Chapman
97.	H.	N. E. corner No. Main and Bancroft streets.	Chapman
98.	L.	N. E. corner No. Main and Bancroft streets.	Chapman
99.	H.	S. E. corner No. Main and Osgood streets.	Chapman
100.	L.	Morgan street, south side, midway.	Chapman
101.	H.	N. E. corner No. Main and Morgan streets.	Chapman
102.	L.	S. E. corner No. Main and Morgan streets, 6″ S. con.	Chapman
103.	H.	S. E. corner No. Main and Church streets.	Chapman
104.	H.	North street, N. E. corner Carew.	Chapman
105.	L.	N. E. corner Carew and North streets, 6″ S. con.	Chapman
106.	L.	Carew place, east side, end of pipe.	Chapman
107.	H.	S. E. corner Main and Carew streets.	Chapman
108.	H.	S. E. corner Main and Bond streets.	Chapman
109.	L.	N. E. corner Main and Bond streets.	Chapman

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No.	High or Low.	Location.	Make.
110.	L.	—Bond street, north side, midway.	Chapman
111.	L.	—Bond street, north side, front of Nos. 110–112.	Chapman
112.	L.	—N. W. corner Chestnut and Patton streets.	Chapman
113.	L.	—Patton street, north side, front of No. 54.	Chapman
114.	L.	—N. E. corner Main and Patton streets.	Chapman
115.	H.	—S. E. corner Main and Patton streets.	Chapman
116.	H.	—N. E. corner Main and Essex streets.	Chapman
117.	L.	—N. E. corner Main and Essex streets.	Perkins
118.	L.	—Essex street, north side, opposite No. 51.	Perkins
119.	L.	—Essex street, north side, front of No. 98.	Perkins
120.	L.	—N. W. corner Chestnut and Tenth streets.	Chapman
121.	L.	—Tenth street, north side, opposite Nos. 105–107.	Chapman
122.	L.	—Tenth street, north side, front of Nos. 54–56.	Chapman
123.	H.	—N. E. corner Main and Tenth streets.	Chapman
124.	H.	—N. E. corner Main and Greenwood streets.	Chapman
125.	L.	—Greenwood street, north side, front of No. 42.	Chapman
126.	L.	—Greenwood street, north side, opposite No. 83.	Chapman
127.	L.	—Greenwood street, north side, front of No. 118.	Chapman
128.	H.	—S. W. corner Chestnut and Franklin streets.	Chapman
129.	H.	—Franklin street, south side, front of Nos. 111-113.	Chapman
130.	H.	—Franklin street, south side, at stone yard.	Chapman
131.	H.	—Franklin street, south side, opposite No. 46.	Chapman
132.	L.	—N. E. corner Main and Franklin streets.	Chapman
133.	H.	—Franklin street, S. E. corner Main, 6″ S. con.	Chapman
134.	H.	—S. E. corner Main and Congress streets.	Chapman
135.	L.	—Congress street, north side, opposite No. 33.	Chapman
136.	L.	—Congress street, north side, opposite No. 97.	Chapman
137.	L.	—N. W. corner Chestnut and Sharon streets.	Perkins
138.	L.	—Sharon street, north side, front of No. 92.	Perkins
139.	L.	—Sharon street, north side, front of No. 52.	Perkins
140.	H.	—S. E. corner Main and Sharon streets.	Chapman
141.	H.	—S. E. corner Main and Ferry streets.	Chapman
142.	L.	—Ferry street, north side, front of No. 46.	Chapman
143.	L.	—Ferry street, north side, opposite No. 97.	Chapman
144.	L.	—Chestnut street, west side, opposite Liberty.	Perkins
145.	H.	—Chestnut street, opposite Ferry, 6″ S. con.	Chapman
146.	H.	—Chestnut street, opposite No. 275, 6″ S. con.	Chapman
147.	H.	—Chestnut street, opposite Sharon, 6″ S. con.	Chapman
148.	H.	—Chestnut street, east side, opposite Congress.	Chapman
149.	H.	—Chestnut street, S. E. corner Franklin, 6″ S. con.	Chapman

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No.	High or Low.	Location.	Make.
150.	H.	Chestnut street, opposite Greenwood, 6″ S. con.	Chapman
151.	H.	Chestnut street, opposite Tenth, 6″ S. con.	Chapman
152.	H.	N. E. corner Chestnut and Linden streets, 6″ S. con.	Chapman
153.	L.	Linden street, near S. E. corner Chestnut.	Chapman
154.	L.	Linden street, south side, opposite No. 46.	Perkins
155.	L.	S. W. corner Cass and Linden streets.	Chapman
156.	L.	S. W. corner Cass and Everett streets.	Chapman
157.	L.	Everett street, south side, midway.	Ayers
158.	H.	Chestnut street, opposite Patton, 6″S. con.	Chapman
159.	L.	S. E. corner Chestnut and Everett streets.	Chapman
160.	L.	N. E. corner Chestnut and Butler streets.	Chapman
161.	L.	Arbor street, east side, front of No. 40.	Chapman
162.	H.	Massasoit street, N. E. corner Carew.	Chapman
163.	L.	N. W. corner Carew and Massasoit streets, 6″ S. con.	Chapman
164.	H.	Chestnut street, S. E. corner Carew.	Chapman
165.	L.	N. E. corner Chestnut and Carew streets.	Chapman
166.	L.	N. E. corner North and Grosvenor streets.	Chapman
167.	L.	Grosvenor street, south side, midway.	Chapman
168.	L.	N. W. corner Chestnut and Grosvenor streets.	Chapman
169.	L.	S. W. corner Chestnut and Ringgold streets.	Chapman
170.	L.	Ringgold street, south side, midway.	Chapman
171.	L.	N. E. corner North and Ringgold streets.	Chapman
172.	L.	S. W. corner North and Morgan streets.	Chapman
173.	L.	N. W. corner North and Osgood streets.	Chapman
174.	L.	Hebron street, north side, midway.	Chapman
175.	L.	N. W. corner Chestnut and Hebron streets.	Chapman
176.	L.	S. W. corner Prospect and Massasoit streets.	Chapman
177.	L.	Allendale street, south side, midway.	Chapman
178.	L.	N. W. corner Chestnut and Allendale streets.	Chapman
179.	L.	S. W. corner Chestnut and Bancroft streets.	Chapman
180.	L.	Lexington avenue, N. W. corner Massasoit street.	Chapman
181.	L.	S. W. corner North and Bancroft streets.	Perkins
182.	L.	S. W. corner North street and Jefferson avenue.	Chapman
183.	H.	N. W. corner North street and Jefferson avenue, 6″ S. con.	Chapman
184.	L.	N. W. corner Montmorenci and Massasoit streets.	Chapman
185.	L.	Montmorenci street, north side, midway.	Chapman
186.	L.	N. W. corner Chestnut street and Jefferson avenue.	Chapman
187.	L.	Calhoun street, north side, at North.	Chapman
188.	L.	Alexander street, N. E. corner North.	Chapman

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No.	High or Low.	Location.	Make.
189.	L.	S. W. corner Chestnut and Waverly streets.	Chapman
190.	L.	Harriet street, N. E. corner North, 6″ S. con.	Chapman
191.	L.	Chestnut street, west side, near Springfield.	Chapman
192.	H.	Merwin street, N. W. corner Chestnut, S. con.	Chapman
193.	H.	Eagle street, N. W. corner Chestnut, S. con.	Chapman
194.	H.	Springfield street, opposite city hospital, 6″ S. con.	Chapman
195.	H.	Atwater terrace, north side, end of pipe.	Chapman
196.	H.	Rimmon avenue, south side, end of pipe.	Perkins
197.	H.	Rimmon avenue, S. W. corner Gladwood.	Perkins
198.	H.	Springfield street, S. W. corner Armory.	Perkins
199.	H.	Armory street, front of truant school, 6″ S. con.	Chapman
200.	H.	N. E. corner Carew and Armory streets.	Chapman
201.	H.	Cleveland street, N. E. corner Armory, 6″ S. con.	Chapman
202.	H.	Cleveland street, N. W. corner Liberty, 6″ S. con.	Chapman
203.	H.	Grover street, N. W. corner Liberty, 6″ S. con.	Chapman
204.	H.	Grover street, N. E. corner Armory, 6″ S. con.	Chapman
205.	H.	Sullivan street, N. E. corner Armory, 6″ S. con.	Chapman
206.	H.	S. E. corner Liberty and Armory streets.	Chapman
207.	H.	Liberty street (about 500 feet W. of Armory street), 6″ S. con.	Chapman
208.	H.	Liberty street, front of Gurdon Bill's, 6″ S. con.	Chapman
209.	H.	Columbia terrace, west side, at end of pipe, 6″ S. con.	Chapman
210.	H.	S. W. corner Liberty street and Heywood avenue.	Chapman
211.	H.	Warwick street, north side, opposite Taber-Prang Co.'s shop, 6″ S. con.	Chapman
212.	H.	Liberty street, south side, opposite Webster.	Chapman
213.	H.	N. E. corner Liberty and Vinton streets.	Chapman
214.	H.	Vinton street, S. E. corner Franklin.	Chapman
215.	H.	Webster street, S. W. corner Franklin, 6″ S. con.	Chapman
216.	H.	Franklin street, north side, east end of pipe, 6″ S. con.	Chapman
217.	H.	Cass street, S. E. corner Franklin.	Chapman
218.	H.	Franklin street, north side, midway Cass and Charles, 6″ S. con.	Chapman
219.	H.	Liberty street, south side, opposite Cass.	Chapman
220.	L.	Liberty street, south side, front of the R. F. Hawkins shops.	Perkins
221.	H.	Liberty street, north side, front of No. 200.	Chapman
222.	H.	S. E. corner Liberty and Charles streets.	Chapman

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No.	High or Low.	Location.	Make.
223.	L.	—Charles street, west side, midway between Franklin and Liberty streets.	Ayers
224.	H.	—Charles street, west side, near B. & A. R. R. freight house.	Chapman
225.	H.	—S. E. corner Chestnut and Liberty streets.	Chapman
226.	H.	—N. E. corner Chestnut and Charles streets.	Chapman
227.	H.	—S. W. corner Chestnut and Liberty streets.	Chapman
228.	H.	—N. W. corner Chestnut and Liberty streets, 6″ S. con.	Chapman
229.	L.	—Liberty street, north side, opposite Day & Jobson's planing mill.	Perkins
230.	H.	—Liberty street, south side, front of R. R. station.	Chapman
231.	L.	—Liberty street, south side, opposite No. 74.	Chapman
232.	L.	—Liberty street, south side, east of Cooley's hotel.	Chapman
233.	H.	—Liberty street, south side, east of Cooley's hotel.	Chapman
234.	L.	—Liberty street, S. E. corner Main, 6″ S. con.	Chapman
235.	H.	—S. E. corner Main and Liberty streets, 6″ S. con.	Chapman
236.	H.	—Main street, east side, just north of arch.	Chapman
237.	L.	—Railroad street, S. W. corner Main, 6″ S. con.	Chapman
238.	L.	—Railroad street, at driveway of Massasoit house, 6″ S. con.	Chapman
239.	L.	—S. E. corner Water and Railroad streets.	Matthews
240.	H.	—S. E. corner Water and Hampden streets.	Perkins
241.	H.	—Hampden street, north side, midway.	Perkins
242.	L.	—S. W. corner Main and Hampden streets, 6″ S. con.	Chapman
243.	L.	—Fort street, south side, midway.	Chapman
244.	L.	—S. E. corner Water and Fort streets.	Chapman
245.	L.	—S. W. corner Main and Worthington streets.	Chapman
246.	L.	—N. W. corner Main and Bridge streets.	Chapman
247.	H.	—Bridge street, north side, opposite Bond place.	Chapman
248.	H.	—Bond place, west side, south end.	Chapman
249.	H.	—Bridge street, south side, front of No. 43.	Matthews
250.	L.	—N. E. corner Water and Bridge streets.	Chapman
251.	H.	—N. W. corner Water and Bridge streets.	Chapman
252.	L.	—Wight avenue, north side, at end of avenue.	Chapman
253.	L.	—N. E. corner Water and Vernon streets.	Chapman
254.	L.	—Vernon street, north side, midway.	Chapman
255.	H.	—N. W. corner Main and Vernon streets.	Matthews
256.	L.	—Main street, west side, front of No. 360, 6″ S. con.	Chapman
257.	L.	—Main street, west side, front of No. 388, 6″ S. con.	Chapman

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No.	High or Low.	Location.	Make.
258.	L.	S. W. corner Main and Vernon streets.	Chapman
259.	H.	N. W. corner Main and Pynchon streets.	Matthews
260.	L.	S. W. corner Main and Pynchon streets.	Chapman
261.	H.	Pynchon street, south side, front of city hall park.	Chapman
262.	H.	City Hall avenue, west side, midway.	Chapman
263.	L.	N. E. corner Water and Pynchon streets.	Chapman
264.	L.	Court street, south side, near Water.	Chapman
265.	L.	Court street, south side, midway.	Chapman
266.	H.	Court street, south side, opposite City hall, 6″.	Perkins
267.	L.	N. W. corner Main and Court streets, 6″ S. con.	Chapman
268.	H.	S. W. corner Main and Court streets.	Chapman
269.	H.	N. W. corner Main and Elm streets, 6″.	Perkins
270.	L.	S. W. corner Main and Elm streets, 6″ S. con.	Chapman
271.	H.	Elm street, S. W. corner Court square.	Chapman
272.	L.	Elm street, south side, midway.	Chapman
273.	L.	N. E. corner Water and Elm streets.	Chapman
274.	H.	State street, west of N. Y., N. H. & H. R. R.	Chapman
275.	H.	N. E. corner Water and State streets, 6″.	Perkins
276.	L.	S. E. corner Water and State streets.	Chapman
277.	H.	State street, north side, front of No. 52, 6″ S. con.	Chapman
278.	L.	State street, south side, front of No. 71, 6″ S. con.	Chapman
279.	H.	State street, north side, near Court House.	Chapman
280.	L.	S. W. corner Main and State streets.	Chapman
281.	H.	N. W. corner Main and Bliss streets.	Chapman
282.	L.	S. W. corner Main and Bliss streets, 6″ S. con.	Chapman
283.	L.	Bliss street, south side, front of No. 29.	Chapman
284.	L.	Bliss street, south side, front of Nos. 57-59.	Chapman
285.	H.	Water street, N. E. corner Bliss.	Chapman
286.	L.	N. E. corner Water and Bliss streets.	Chapman
287.	L.	Bliss street, south side at railroad, 6″ S. con.	Chapman
288.	H.	Howard street, north side, near N. Y., N. H. & H. R. R.	Chapman
289.	L.	Howard street, south side, near N. Y., N. H. & H. R. R.	Perkins
290.	H.	Water street, N. E. corner Howard.	Chapman
291.	L.	N. W. corner Water and Howard streets.	Chapman
292.	L.	Howard street, south side, front of No. 43.	Perkins
293.	H.	N. W. corner Main and Howard streets.	Chapman
294.	L.	S. W. corner Main and Howard streets.	Chapman
295.	L.	S. W. corner Main and Union streets.	Chapman

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No.	High or Low.	Location.	Make.
296.	L.	—Union street, south side, midway Main and Water.	Chapman
297.	H.	—Union street, north side, midway Main and Water.	Chapman
298.	L.	—S. E. corner Water and Union streets.	Chapman
299.	L.	—Wilcox street, north side, near railroad.	Chapman
300.	L.	—S. E. corner Water and Wilcox streets.	Chapman
301.	L.	—Wilcox street, south side, front of No. 47.	Chapman
302.	H.	—N. W. corner Main and Wilcox streets.	Chapman
303.	L.	—S. W. corner Main and Wilcox streets.	Chapman
304.	L.	—S. W. corner Main and William streets.	Chapman
305.	L.	—William street, north side, front of No. 120.	Chapman
306.	L.	—William street, north side, opposite No. 83.	Chapman
307.	L.	—N. W. corner Water and William streets.	Perkins
308.	L.	—William street, north side, near railroad.	Perkins
309.	L.	—Margaret street, north side, near railroad.	Chapman
310.	H.	—Margaret street, at street railway power house, 6″ S. con.	Chapman
311.	H.	—Water street, S. W. corner Margaret, 6″ S. con.	Chapman
312.	L.	—N. E. corner Water and Margaret streets.	Chapman
313.	L.	—Margaret street, south side, opposite Nos. 42-44.	Chapman
314.	H.	—N. W. corner Main and Margaret streets.	Chapman
315.	L.	—S. W. corner Main and Margaret streets.	Chapman
316.	L.	—S. W. corner Main and Fremont streets.	Chapman
317.	L.	—Fremont street, south side, front of No. 41.	Chapman
318.	L.	—N. E. corner Water and Fremont streets.	Chapman
319.	L.	—Whitney avenue, north side, end of avenue.	Chapman
320.	H.	—Water street, west side, near Loring.	Chapman
321.	H.	—Loring street, north side, front of No. 34.	Chapman
322.	H.	—N. W. corner Main and Loring streets.	Chapman
323.	L.	—Lombard street, north side, opposite No. 25.	Chapman
324.	H.	—S. W. corner Water and Walker streets.	Chapman
325.	H.	—Walker street, south side, near Walker's shop.	Chapman
326.	L.	—Walker street, north side, midway, 6″ S. con.	Chapman
327.	H.	—Walker street, south side, near railroad.	Chapman
328.	H.	—S. E. corner Gardner and Hanover streets.	Chapman
329.	L.	—Gardner street, north side, front of No. 96.	Chapman
330.	H.	—Gardner street, south side, opposite Gardner ave.	Chapman
331.	L	—N. E. corner Water and Gardner streets.	Perkins
332.	L.	—N. E. corner Hanover and Norwood streets.	Perkins
333.	L.	—Norwood street, south side, midway.	Chapman
334.	L.	—N. W. corner Main and Norwood streets.	Chapman

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No.	High or Low.	Location.	Make.
335.	L.	S. W. corner Main and Broad streets, 6″ S. con.	Chapman
336.	L.	S. E. corner Hanover and Broad streets, 6″ S. con.	Chapman
337.	H.	Hanover street, east side, near Broad.	Chapman
338.	L.	Elmwood street, north side, near Barney & Berry's shop.	Chapman
339.	H.	N. W. corner Hanover and York streets.	Chapman
340	L.	York street, north side, front of schoolhouse.	Chapman
341.	L.	N. W. corner Main and York streets.	Perkins
342.	H.	Main street, east side, opposite No. 962.	Matthews
343.	H.	South street, east side, opposite No. 5.	Chapman
344.	H.	S. E. corner South and Long Hill streets.	Chapman
345.	H.	South street, east side, below Long Hill, 6″ S. con.	Chapman
346.	H.	South street, east side, at so. end bridge, 6″ S. con.	Chapman
347.	H.	Long Hill street, east side, near brick yard.	Chapman
348.	H.	Warner place, north side, midway, 6″ S. con.	Chapman
349.	H.	Maplewood terrace, N. E. corner Fort Pleasant avenue, 6″ S. con.	Chapman
350.	H.	Long Hill street, east side, north of Sumner avenue.	Chapman
351.	H.	N. E. corner Long Hill street and Sumner ave.	Chapman
352.	H.	Long Hill street, east side, near schoolhouse.	Chapman
353.	H.	Long Hill street, N. E. corner Cherryvale avenue, 6″ S. con.	Chapman
354.	H.	Spruceland avenue, north side, opposite No. 50.	Perkins
355.	H.	Pineywoods avenue, N. W. corner Washington boulevard, 6″ S. con.	Chapman
356.	H.	Spruceland avenue, S. W. corner Magnolia terrace.	Chapman
357.	H.	Magnolia terrace, end of pipe.	Chapman
358.	H.	Firglade avenue, east side, north of Spruceland.	Chapman
359.	H	Pineywoods avenue, N. E. corner Firglade, 6″ S. con.	Chapman
360.	H.	Hawthorn place, east side.	Chapman
361.	H.	S. E. corner Sumner avenue and Hawthorn place.	Chapman
362.	H.	S. E. corner Sumner and Firglade avenues.	Chapman
363.	H.	Magnolia terrace, at Sumner avenue.	Chapman
364.	H.	N. W. corner Sumner and Fort Pleasant avenues.	Chapman
365.	H.	Maplewood terrace, north side, midway, S. con.	Chapman
366.	H.	Maplewood terrace, N. W. corner Park avenue.	Chapman
367.	H.	S. E. corner Forest street and Park avenue.	Chapman
368.	H.	Park avenue, N. E. corner Sumner.	Chapman

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No.	High or Low.	Location.	Make.
369.	H.	—Greenleaf street, N. E. corner Sumner avenue.	Chapman
370.	H.	—Sumner avenue, south side, at Forest park, 6″ S. con.	Chapman
371.	H.	—Churchill street, N. E. corner Sumner avenue.	Chapman
372.	H.	—Churchill street, S. E. corner Garfield.	Chapman
373.	H.	—Greenleaf street, S. E. corner Garfield.	Chapman
374.	H.	—Fairfield street, north side, midway.	Chapman
375.	H.	—S. E. corner Belmont avenue and Litchfield street.	Chapman
376.	H.	—Litchfield street, N. E. corner Garfield.	Chapman
377.	H.	—N. W. corner Belmont avenue and Oakland street.	Chapman
378.	H.	—Kenwood park, N. W. corner Belmont avenue, 6″.	Chapman
379.	H.	—Beaumont street, west side, end of pipe, 6″ S. con.	Chapman
380.	H.	—Brace street, N. W. corner Belmont avenue, 6″ S. con.	Chapman
381.	H.	—Cliftwood avenue, at end of same, 6″ S. con.	Chapman
382.	H.	—Lenox street, at end of same, 6″ S. con.	Chapman
383.	H.	—Continental avenue, east side, end of pipe, 6″ S. con.	Chapman
384.	H.	—Sumner avenue, S. W. corner Belmont.	Chapman
385.	H.	—Forest avenue, about 300 ft. south of Sumner, 6″ S. con.	Chapman
386.	H.	—Commonwealth avenue, east side, 350 ft. south of Walden street, 6″ S. con.	Chapman
387.	H.	—Commonwealth avenue, east side, 175 ft. south of Washington street, 6″ S. con.	Chapman
388.	H.	—Sumner ave., south side, near Converse street, 6″ S. con.	Chapman
389.	H.	—Sorrento avenue, S. E. corner Granada terrace, 6″ S. con.	Chapman
390.	H.	—Ventura avenue, S. E. corner Granada terrace, 6″ S. con.	Chapman
391.	H.	—Pomona avenue, opposite Granada terrace, 6″ S. con.	Chapman
392.	H.	—Granada terrace, in grass plot.	Chapman
393.	H.	—Granada terrace, N. E. cor. Dickinson street, 6″ S. con.	Chapman
394.	H.	—Berendo avenue, S. E. corner Alderman street, 6″ S. con.	Chapman
395.	H.	—Kenwood park, west side, midway, 6″.	Chapman
396.	H.	—Kenwood park, S. W. corner Dickinson street, 6″.	Chapman

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No.	High or Low.	Location.	Make.
397.	H.	—Johnson street, north side, near Pasadena avenue,	Perkins
398.	H.	—Johnson street, at Dickinson, 6″.	Chapman
399.	H.	—Bloomfield street, N. W. corner Pasadena avenue, 6″ S. con.	Chapman
400.	H.	—Oakland street, N. W. corner Dickinson.	Chapman
401.	H.	—Crystal avenue, S. W. corner Dickinson street, 6″ S. con.	Chapman
402.	H.	—Hall street, N. W. corner Dickinson.	Chapman
403.	H.	—Hall street, west side, midway.	Chapman
404.	H.	—N. E. corner Belmont avenue and Hall street.	Chapman
405.	H.	—Forest street, east side, about midway.	Chapman
406.	H.	—N. E. corner Belmont avenue and Keith street.	Chapman
407.	H.	—Keith street, north side, front of No. 51.	Chapman
408.	H.	—N. W. corner Keith and Dickinson streets.	Chapman
409.	H.	—Euclid avenue, N. W. corner Dickinson street.	Chapman
410.	H.	—Euclid avenue, north side, midway.	Chapman
411.	H.	—Marengo avenue, N. W. corner Dickinson street, 6″ S. con.	Chapman
412.	H.	—Marengo avenue, at Swan (proposed street), 6″ S. con.	Chapman
413.	H.	—LaVerne avenue, S. E. corner Bellevue.	Perkins
414.	H.	—Kenwood avenue (proposed street), S. E. corner Bellevue.	Chapman
415.	H.	—Bellevue avenue, S. W. corner Dickinson street.	Chapman
416.	H.	—Belmont avenue, east side, opposite No. 134.	Chapman
417.	H.	—Belmont avenue, east side, north of Euclid.	Chapman
418.	H.	—Woodside avenue, at end of pipe, 6″ S. con.	Chapman
419.	H.	—Park avenue, N. E. corner Fort Pleasant.	Chapman
420.	H.	—Chase avenue, N. E. corner Fort Pleasant, 6″ S. con.	Chapman
421.	H.	—Chase avenue, N. W. corner Riverview street, 6″ S. con.	Chapman
422.	H.	—Edgeland avenue, north side, midway.	Chapman
423.	H.	—Crescent terrace, in park at Fort Pleasant avenue, 6″ S. con.	Chapman
424.	H.	—Belmont avenue, west side, at Fort Pleasant.	Chapman
425.	H.	—Mill street, south side, midway Locust and Main.	Matthews
426.	H.	—Locust street, N. E. corner Mill, 6″ S. con.	Chapman
427.	H.	—Mill street, north side, opposite Howard's waste mill.	Perkins
428.	H.	—Pine street, north side, at Mill.	Chapman

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No.	High or Low.	Location.	Make.
429.	H.	Warriner avenue, north side, end of pipe.	Chapman
430.	L.	Main street, east side, at Locust.	Matthews
431.	H.	Palmer avenue, north side, 300 feet east of Locust street, 6″ S. con.	Chapman
432.	H.	Main street, N. E. corner Acushnet avenue, 6″.	Chapman
433.	L.	Acushnet avenue, north side, midway.	Chapman
434.	L.	Acushnet avenue, north side, end of pipe.	Chapman
435.	H.	Main street, N. E. corner Rutledge avenue, 6″.	Chapman
436.	L.	Rutledge avenue, north side, midway.	Perkins
437.	L.	Wendell avenue, 6″ S. con.	Chapman
438.	H.	Main street, east side, opposite Broad, 6″.	Chapman
439.	H.	Main street, N. E. corner Marble, 6″.	Chapman
440.	L.	Marble street, N. E. corner Main, 6″.	Chapman
441.	L.	Marble street, north side, midway, 6″.	Chapman
442.	L.	Marble street, north side, end of pipe, 6″.	Chapman
443.	H.	Main street, east side, opposite Gardner, 6″.	Chapman
444.	L.	Main street, east side, opposite Gardner.	Perkins
445.	H.	Main street, east side, front of No. 739, 6″.	Chapman
446.	H.	Main street, east side, opposite Lombard, 6″.	Chapman
447.	H.	Main street, S. E. corner Adams, 6″.	Chapman
448.	L.	Adams street, south side, midway.	Chapman
449.	L.	Ashmun street, east side, opposite Adams.	Chapman
450.	L.	Central street, north side, opposite No. 63, 6″ S. con.	Chapman
451.	H.	N. E. corner Main and Central streets.	Chapman
452.	H.	N. E. corner Main and Morris streets.	Chapman
453.	L.	Morris street, north side, opposite No. 40.	Chapman
454.	L.	Morris street, east side, at angle.	Chapman
455.	L.	Winthrop street, N. W. corner Dale, 6″ S. con.	Chapman
456.	L.	Winthrop street, north side, midway, 6″ S. con.	Chapman
457.	H.	N. E. corner Main and Winthrop streets.	Chapman
458.	H.	N. E. corner Main and William streets.	Chapman
459.	H.	William street, south side, midway Main and Dale.	Chapman
460.	L.	N. W. corner William and Dale streets.	Chapman
461.	H.	N. E. corner Willow street and Hubbard avenue.	Chapman
462.	H.	S. E. corner Main street and Hubbard avenue.	Chapman
463.	H.	N. E. corner Main and Union streets.	Chapman
464.	H.	N. E. corner Union and Willow streets.	Perkins
465.	L.	S. E. corner Union and Dale streets.	Chapman
466.	H.	S. W. corner Park and Willow streets.	Perkins
467.	H.	N. E. corner Main and Park streets.	Chapman

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No.	High or Low.	Location.	Make.
468.	H.	S. E. corner Main and Cross streets.	Chapman
469.	H.	N. E. corner Willow and Cross streets, 6″ S. con.	Chapman
470.	H.	Cross street, south side, midway Maple and Willow.	Chapman
471.	H.	S. E. corner Main street and Crossett avenue.	Chapman
472.	H.	S. E. corner Main and Stockbridge streets.	Chapman
473.	L.	Stockbridge street, S. W. corner Willow, 6″ S. con.	Chapman
474.	H.	N. E. corner Willow and Stockbridge streets, 6″ S. con.	Chapman
475.	H.	Stockbridge street, south side, just west of Smith & Wesson's shop.	Perkins
476.	H.	Stockbridge street, south side, just east of Smith & Wesson's shop.	Perkins
477.	H.	S. E. corner State and Willow streets.	Perkins
478.	L.	State street, S. W. corner Willow, 6″ S. con.	Chapman
479.	H.	N. E. corner State and Dwight streets.	Chapman
480.	L.	N. W. corner State and Dwight streets.	Chapman
481.	H.	N. W. corner State and Market streets.	Chapman
482.	H.	N. E. corner State and Main streets, 6″ S. con.	Chapman
483.	H.	N. E. corner Main and Sanford streets, 6″ S. con.	Chapman
484.	L.	S. W. corner Market and Sanford streets.	Chapman
485.	L.	Sanford street, north side, midway Market and Dwight.	Chapman
486.	H.	Sanford street, north side, near Dwight.	Perkins
487.	H.	Sanford street, N. E. corner Market, 6″ S. con.	Chapman
488.	L.	S. W. corner Dwight and East Court streets.	Chapman
489.	H.	N. W. corner Dwight and East Court streets.	Perkins
490.	L.	Dwight street, S. W. corner New, 6″ S. con.	Chapman
491.	H.	N. W. corner East Court and New streets.	Chapman
492.	H.	S. W. corner East Court and Market streets.	Chapman
493.	H.	S. E. corner Main and East Court streets.	Matthews
494.	H.	Main street, east side, front of No. 445, 6″ S. con.	Chapman
495.	H.	Main street, east side, front of No. 415, 6″ S. con.	Chapman
496.	H.	N. E. corner Main street and Townsley avenue.	Matthews
497.	H.	Main street, east side, opposite Pynchon.	Matthews
498.	H.	N. W. corner Market street and Townsley avenue.	Chapman
499.	L.	S. W. corner Harrison avenue and Market street.	Chapman
500.	H.	S. E. corner Main street and Harrison avenue.	Chapman
501.	H.	Main street, east side, opposite Vernon.	Matthews
502.	H.	Harrison avenue, N. E. corner Main street, 6″.	Perkins

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No.	High or Low.	Location.	Make.
503.	H.	Harrison avenue, north side, opposite Market street, 6″.	Chapman
504.	H.	Harrison avenue, north side, front of No. 44, 6″.	Perkins
505.	H.	Harrison avenue, south side, front of No. 37, 6″.	Perkins
506.	H.	Harrison avenue, N. W. corner Dwight street, 6″.	Chapman
507.	L.	S. W. corner Harrison avenue and Dwight street.	Chapman
508.	H.	N. E. corner Harrison avenue and Dwight street.	Perkins
509.	H.	Dwight street, front of No. 109, 6″ S. con.	Chapman
510.	L.	S. W. corner Dwight and Hillman streets.	Chapman
511.	H.	N. W. corner Dwight and Hillman streets.	Chapman
512.	H.	Hillman street, N. W. corner Barnes, 6″ S. con.	Chapman
513.	H.	Hillman street, south side, midway.	Chapman
514.	H.	N. E. corner Main and Hillman streets, 6″ S. con.	Chapman
515.	H.	N. E. corner Main and Bridge streets.	Chapman
516.	L.	Bridge street, S. E. corner Barnes, 6″ S. con.	Chapman
517.	L.	Bridge street, north side, at Stearns park.	Chapman
518.	L.	Dwight street, S. W. corner Bridge, 6″ S. con.	Chapman
519.	H.	N. E. corner Bridge and Dwight streets, 6″ S. con.	Chapman
520.	L.	S. E. corner Worthington and Dwight streets, 6″ S. con.	Chapman
521.	H.	N. W. corner Worthington and Dwight streets.	Chapman
522.	H.	S. E. corner Worthington street and Stearns avenue.	Chapman
523.	L.	Worthington street, south side, front of No. 99.	Chapman
524.	H.	N. E. corner Main and Worthington streets.	Chapman
525.	H.	Main street, east side, opposite Fort.	Chapman
526.	H.	N. E. corner Main and Taylor streets.	Matthews
527.	H.	Taylor street, south side, front of No. 23.	Matthews
528.	H.	Taylor street, north side, opposite No. 51.	Matthews
529.	H.	N. E. corner Taylor and Dwight streets.	Perkins
530.	H.	Taylor street, north side, front of No. 96, 6″ S. con.	Chapman
531.	H.	S. E. corner Lyman and Dwight streets.	Perkins
532.	L.	Lyman street, north side, opposite Dwight.	Chapman
533.	H.	Lyman street, south side, front of No. 53.	Perkins
534.	L.	Lyman street, north side, opposite Nos. 39–43.	Chapman
535.	H.	Lyman street, north side, opposite Nos. 27–31.	Perkins
536.	H.	N. E. corner Main and Lyman streets.	Matthews
537.	L.	Lyman street, S. E. corner Main, 6″ S. con.	Chapman
538.	H.	Main street, east side, opposite Hampden, 6″ S. con.	Chapman
539.	H.	Main street, east side, just south of arch.	Chapman
540.	H.	N. E. corner Chestnut and Lyman streets.	Chapman

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No.	High or Low.	Location.	Make.
541.	H.	—Chestnut street, S. W. corner Lyman, 6″.	Chapman
542.	H.	—Lyman street, north side, midway Spring and Chestnut.	Chapman
543.	L.	—S. E. corner Chestnut and Lyman streets.	Perkins
544.	H.	—N. E. corner Chestnut and Taylor streets.	Chapman
545.	L.	—Chestnut street, east side, opposite Taylor, 6″ S. con.	Chapman
546.	H.	—N. W. corner Chestnut and Taylor streets.	Chapman
547.	H.	—N. E. corner Chestnut and Worthington streets.	Chapman
548.	L.	—S. W. corner Chestnut and Worthington streets.	Chapman
549.	H.	—Chestnut street, S. W. corner Worthington, 6″.	Chapman
550.	L.	—Chestnut street, east side, near Bridge.	Chapman
551.	H.	—Chestnut street, N. W. corner Bridge, 6″.	Chapman
552.	L.	—S. E. corner Chestnut and Pearl streets.	Chapman
553.	H.	—Chestnut street, west side, opposite Pearl, 6″.	Chapman
554.	H.	—Chestnut street, west side, opposite Mattoon, 6″.	Chapman
555.	H.	—Chestnut street, N. W. corner Harrison avenue, 6″.	Chapman
556.	H.	—Chestnut street, west side, opposite Edwards, 6″.	Chapman
557.	L.	—Edwards street, north side, opposite No. 37.	Perkins
558.	L.	—Chestnut street, west side, opposite No. 55.	Chapman
559.	H.	—Chestnut street, west side, opposite No. 49, 6″.	Chapman
560.	H.	—Chestnut street, west side, opposite Christ church.	Perkins
561.	H.	—N. E. corner State and Chestnut streets, 6″ S. con.	Chapman
562.	H.	—State street, north side, near City Library.	Perkins
563.	H.	—State street, north side, at cathedral, 6″ S. con.	Chapman
564.	H.	—N. W. corner State and Elliott streets.	Matthews
565.	L.	—Elliott street, west side, front of convent.	Chapman
566.	H.	—N. W. corner State and Spring streets.	Matthews
567.	H.	—N. E. corner Spring and Frost streets.	Chapman
568.	L.	—S. W. corner Spring and Salem streets.	Ayers
569.	H.	—Spring street, east side, opposite Salem, 6″.	Perkins
570.	H.	—Elliott street, S. E. corner Salem, 6″ S. con.	Chapman
571.	H.	—Salem street, north side, opposite Elliott.	Chapman
572.	L.	—Pearl street, north side, opposite Salem, 6″ S. con.	Chapman
573.	H.	—S. E. corner Pearl and Spring streets.	Chapman
574.	H.	—Pearl street, north side, at Byers.	Chapman
575.	H.	—Pearl street, north side, at angle.	Chapman
576.	H.	—Pearl street, north side, front of No. 242.	Brown
577.	H.	—N. W. corner Pearl and Federal streets.	Chapman
578.	H.	—N. E. corner Worthington and Federal streets.	Perkins

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No.	High or Low.	Location.	Make.
579.	H.	—Worthington street, north side, opposite No. 485.	Chapman
580.	H.	—N. E. corner Worthington street and Kibbe avenue.	Chapman
581.	H.	—Worthington street, north side, opposite Sackett's avenue.	Chapman
582.	L.	—S. W. corner Worthington street and Sackett's avenue.	Perkins
583.	H.	—Worthington street, north side, opposite No. 377.	Chapman
584.	H.	—N. E. corner Worthington and Autumn streets.	Chapman
585.	H.	—Worthington street, north side, opposite schoolhouse.	Chapman
586.	L.	—S. W. corner Worthington and Spring streets.	Ayers
587.	L.	—Worthington street, S. W. corner Spring, 6″ S. con.	Chapman
588.	H.	—N. E. corner Worthington and Spring streets.	Chapman
589.	H.	—N. E. corner Worthington and Alert streets.	Chapman
590.	L.	—Worthington street, south side, opposite Alert, 6″ S. con.	Chapman
591.	H.	—N. E. corner Spring and Summer streets.	Chapman
592.	L.	—Lyman street, south side, front of Gilbert & Barker's shop.	Chapman
593.	H.	—Lyman street, north side, at Spring.	Chapman
594.	H.	—Summer street, north side, opposite Autumn.	Perkins
595.	L.	—Summer street, south side, front of No. 103.	Perkins
596.	L.	—Summer street, south side, front of No. 147.	Perkins
597.	H.	—Summer street, S. E. corner Kibbe avenue, 6″.	Chapman
598.	H.	—Summer street, S. W. corner Federal, 6″.	Chapman
599.	H.	—Armory street, north of B. & A. R. R., 6″ S. con.	Chapman
600.	H.	—Armory street, east side, at paint shops.	Chapman
601.	H.	—Armory street court, S. E. corner Armory street avenue, 6″ S. con.	Chapman
602.	H.	—Worthington street, N. W. corner Armory, 6″ S. con.	Chapman
603.	H.	—N. E. corner Armory and Grant streets.	Chapman
604.	H.	—Federal street, west side, at Armory gate.	Matthews
605.	H.	—N. E. corner Federal and Lincoln streets.	Perkins
606.	H.	—Lincoln street, N. W. corner Magazine, S. con.	Chapman
607.	H.	—N. W. corner Magazine and Grant streets.	Chapman
608.	H.	—S. E. corner Armory and Magazine streets.	Chapman
609.	H.	—Worthington street, south side, midway Armory and Bowdoin, 6″ S. con.	Chapman
610.	H.	—S. E. corner Worthington and Bowdoin streets.	Perkins
611.	H.	—Bowdoin street, north side, midway Worthington street and St. James avenue.	Chapman

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No.	High or Low.	Location.	Make.
612.	H.	—S. E. corner Bowdoin street and Ingersoll grove.	Chapman
613.	H.	—Ingersoll grove, east side, at angle.	Chapman
614.	H.	—S. W. corner Florida and Worthington streets.	Matthews
615.	H.	—S. E. corner Worthington and Thompson streets.	Chapman
616.	H.	—Thompson street, east side, midway St. James avenue and Worthington street.	Chapman
617.	H.	—Dartmouth terrace, east side, front of No. 45.	Chapman
618.	H.	—S. W. corner Harvard street and St. James avenue.	Chapman
619.	H.	—S. E. corner Harvard and Cornell streets.	Chapman
620.	H.	—S. E. corner Cornell and Wellesley streets.	Chapman
621.	H.	—S. E. corner Cornell and Princeton streets.	Chapman
622.	H.	—S. W. corner St. James avenue and Princeton street.	Chapman
623.	H.	—St. James avenue, north side, opposite Dorchester street.	Chapman
624.	H.	—N. E. corner Dorchester and Truxton streets.	Chapman
625.	H.	—N. W. corner Lafayette and Amherst streets.	Chapman
626.	H.	—N. W. corner Monmouth and Yale streets.	Chapman
627.	H.	Monmouth street, at Berkeley.	Chapman
628.	H.	—N. W. corner Princeton and Yale streets.	Chapman
629.	H.	—Princeton street, west side, between Vassar and Amherst.	Chapman
630.	H.	—Harvard street, west side, midway St. James avenue and Yale street.	Chapman
631.	H.	—N. E. corner Harvard and Yale streets.	Chapman
632.	H.	—N. E. corner Dartmouth and Yale streets.	Chapman
633.	H.	—Dartmouth street, east side, midway.	Chapman
634.	H.	—S. E. corner Dartmouth street and St. James avenue.	Chapman
635.	H.	—S. E. corner Clarendon street and St. James avenue.	Chapman
636.	H.	—Clarendon street, east side, between Bay street and St. James avenue.	Chapman
637.	H.	—N. W. corner Buckingham and Clarendon streets.	Chapman
638.	H.	—N. E. corner Buckingham street and Buckingham place.	Chapman
639.	H.	—S. E. corner Buckingham and Bay streets.	Chapman
640.	H.	—S. E. corner Bay and Westminster streets.	Ayers
641.	H.	—Westminster street, east side, midway St. James avenue and Bay street.	Chapman
642.	H.	—S. E. corner Westminster street and St. James avenue.	Chapman

Digitized by Google

No.	High or Low.	Location.	Make.
643.	H.	—S. E. corner Thompson street and St James avenue.	Chapman
644.	H.	—S. E. corner Thompson and Bay streets.	Perkins
645.	H.	—S. E. corner Bay and Pleasant streets.	Perkins
646.	H.	—S. W. corner Florida street and St. James avenue.	Matthews
647.	H.	—N. E. corner St. James avenue and Bowdoin street.	Chapman
648.	H.	—N. E. corner State street and St. James avenue.	Perkins
649.	H.	—N. E. corner State and Pleasant streets.	Perkins
650.	H.	—N. E. corner State and Westminster streets.	Perkins
651.	H.	—Buckingham street, east side, front of No. 69.	Chapman
652.	H.	—N. E. corner Sherman and State streets.	Perkins
653.	H.	—S. E. corner Sherman and McKnight streets.	Chapman
654.	H.	—S. E. corner Sherman and Bay streets.	Chapman
655.	H.	—S. E. corner Catharine and Bay streets.	Chapman
656.	H.	—N. E. corner Catharine and McKnight streets.	Chapman
657.	H.	—Catharine street, east side, front of No. 71.	Chapman
658.	H.	—Catharine street, east side, front of No. 37.	Chapman
659.	H.	—State street, south side, at Winchester park engine house.	Chapman
660.	H.	—State street, north side, at N. E. R. R., 6″ S. con.	Chapman
661.	H.	—Chapin street, east side, midway.	Chapman
662.	H.	—Marion street, west side, south end.	Chapman
663.	H.	—N. E. corner Bowles and McKnight streets.	Chapman
664.	H.	—Bowles street, east side, midway Bay and McKnight.	Chapman
665.	H.	—S. E. corner Bowles and Bay streets.	Chapman
666.	H.	—Marion street, east side, midway.	Chapman
667.	H.	—N. W. corner McKnight street and Girard avenue.	Chapman
668.	H.	—S. E. corner Bay street and Girard avenue.	Chapman
669.	H.	—Clifford street, south side, midway.	Chapman
670.	H.	—Bay street, south side, front of No. 401.	Chapman
671.	H.	—Dawes street, west side, midway.	Chapman
672.	H.	—S. E. corner Bay street and Oak Grove avenue.	Chapman
673.	H.	—Cambridge street, east side, front of No. 45.	Chapman
674.	H.	—Cambridge street, east side, opposite No. 84.	Chapman
675.	H.	—Andrew street, east side, midway.	Chapman
676.	H.	—Hayden street, east side, midway.	Perkins
677.	H.	—N. E. corner State and Andrew streets.	Perkins
678.	H.	—Montrose street, east side, midway, 6″.	Chapman
679.	H.	—Mapledell street, N. E. corner State, 6″ S. con.	Chapman

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No.	High or Low.	Location.	Make.
680.	H.	—Mapledell street, S. E. corner Burr, S. con.	Chapman
681.	H.	—Oak Grove avenue, west side, end of pipe, 6″ S. con.	Chapman
682.	H.	—College avenue, S. E. corner Shattuck.	Chapman
683.	H.	—College avenue, east side, midway.	Chapman
684.	H.	—State street, north side, opposite No. 1029.	Chapman
685.	H.	—Maynard avenue, west side, near State street.	Chapman
686.	H.	—Willard avenue, west side, near Shattuck.	Chapman
687.	H.	— Cortland street, west side, midway.	Chapman
688.	H.	— Dresden avenue, east side, midway, 6″ S. con.	Chapman
689.	H.	—State street, north side, front of No. 1090.	Chapman
690.	H.	—State street, north side, west of Carlisle brook.	Chapman
691.	H.	—S. E. corner State and Benton streets.	Chapman
692.	H.	—State street, north side, front of Alden Warner's.	Chapman
693.	H.	—Boston road, north side, near Jasper street, 6″ S. con.	Chapman
694.	H.	—Coleman street, east side, end of pipe, 6″ S. con.	Chapman
695.	H.	—Benton avenue, N. E. corner Benton street, 6″ S. con.	Chapman
696.	H.	—Benton street, N. E. corner Wilbraham road, 6″ S. con.	Chapman
697.	H.	—Wilbraham road, front of House of Good Shepherd, 6″ S. con.	Chapman
698.	H.	—Carlisle avenue, N. E. corner Wilbraham road, 6″ S. con.	Chapman
699.	H.	—Carlisle avenue, east side, end of pipe, 6″ S. con.	Chapman
700.	H.	—Norfolk street, S. E. corner Wilbraham road.	Chapman
701.	H.	—Norfolk street, east side, end of pipe.	Chapman
702.	H.	—Suffolk street, east side, end of pipe.	Chapman
703.	H.	—Middlesex street, corner Wilbraham road.	Chapman
704.	H.	—Wellington street, east side, end of pipe, 6″S. con.	Chapman
705.	H.	—Reed street, corner Wilbraham road.	Chapman
706.	H.	—N. E. corner Wilbraham road and College street.	Chapman
707.	H.	—Westford avenue, S. E. corner Wilbraham road, 6″ S. con.	Chapman
708.	H.	—Westford avenue, east side, opposite Gunn square, 6″S. con.	Chapman
709.	H.	—King street, N. W. corner Northampton avenue, 6″ S. con.	Chapman
710.	H.	—Wilbraham avenue, N. E. corner King street, 6″ S. con.	Chapman

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No.	High or Low.	Location.	Make.
711.	H.	Wilbraham avenue, east side, 350 ft. north of King street, 6″ S. con.	Chapman
712.	H.	Wilbraham avenue, east side, opposite National Photo-Paper and Chemical Co.'s shop.	Perkins
713.	H.	Wilbraham avenue, east side, north of Beverly street.	Chapman
714.	H.	Northampton avenue, east side, end of pipe, 6″ S. con.	Chapman
715.	H.	Northampton avenue, between Nos. 685 and 687.	Chapman
716.	H.	Northampton avenue, east side, midway.	Chapman
717.	H.	Northampton avenue, S. E. corner Wilbraham road.	Chapman
718.	H.	Wilbraham avenue, east side, front of No. 25.	Chapman
719.	H.	S. E. corner Waltham avenue and Wilbraham road.	Chapman
720.	H.	S. W. corner Colton street and Wilbraham road.	Chapman
721.	H.	S. W. corner Wilbraham road and Eastern avenue.	Chapman
722.	H.	S. E. corner State and Winchester streets.	Chapman
723.	H.	S. E. corner State and Hancock streets.	Perkins
724.	H.	N. E. corner Monroe and Hancock streets.	Chapman
725.	H.	Monroe street, north side, front of No. 72.	Perkins
726.	H.	N. W. corner Monroe street and Eastern avenue.	Chapman
727.	H.	N. W. corner Monroe and Colton streets.	Chapman
728.	H.	S. W. corner Colton and Union streets.	Chapman
729.	H.	S. W. corner Union and Eastern avenue.	Chapman
730.	H.	Union street, south side, front of No. 709.	Chapman
731.	H.	Union street, south side, front of No. 660.	Chapman
732.	H.	S. E. corner Union and Hancock streets.	Matthews
733.	H.	N. W. corner Hancock and Quincy streets.	Chapman
734.	H.	Quincy street, north side, front of No. 181.	Chapman
735.	H.	Quincy street, north side, front of No. 230.	Chapman
736.	H.	N. W. corner Quincy street and Eastern avenue.	Chapman
737.	H.	N. W. corner Quincy and Colton streets.	Chapman
738.	H.	N. W. corner Tyler and Colton streets.	Chapman
739.	H.	S. W. corner Tyler street and Eastern avenue.	Chapman
740.	H.	Tyler street, north side, front of No. 220.	Chapman
741.	H.	Tyler street, north side, opposite No. 183.	Chapman
742.	H.	N. W. corner Hancock and Tyler streets.	Matthews
743.	H.	N. W. corner Hancock street and Pendleton avenue.	Perkins
744.	H.	Pendleton avenue, north side, opposite No. 163.	Chapman

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No.	High or Low.	Location.	Make.
745.	H.	—Pendleton avenue, north side, opposite No. 209.	Chapman
746.	H.	—N. W. corner Pendleton and Eastern avenues.	Chapman
747.	H.	—Beacon street, south side, at Colton.	Chapman
748.	H.	—King street, N. W. corner Logan.	Chapman
749.	H.	—N. W. corner Eastern avenue and King street.	Chapman
750.	H.	—King street, north side, front of No. 184.	Chapman
751.	H.	—King street, north side, opposite Nelson avenue.	Chapman
752.	H.	—N. E. corner King and Hancock streets.	Matthews
753.	H.	—N. W. corner Lebanon street and Nelson avenue.	Chapman
754.	H.	—N. W. corner Lebanon street and Merrick avenue.	Chapman
755.	H.	—Eastern avenue, east side, opposite Lebanon street.	Chapman
756.	H.	—N. W. corner Granville and Logan streets.	Chapman
757.	H.	—N. W. corner Olive and Logan streets.	Chapman
758.	H.	—N. W. corner Ladd and Logan streets.	Chapman
759.	H.	—Collins street, near N. W. corner Logan.	Chapman
760.	H.	—N. W. corner Greene street and Eastern avenue.	Chapman
761.	H.	—Greene street, north side, front of No. 88.	Chapman
762.	H.	—N. W. corner Greene street and Nelson avenue.	Chapman
763.	H.	—N. E. corner Greene and Hancock streets.	Matthews
764.	H.	—Alden street, north side, front of No. 24.	Chapman
765.	H.	—Alden street, north side, front of No. 86.	Chapman
766.	H.	—N. W. corner Alden street and Eastern avenue.	Chapman
767.	H.	—Alden street, N. W. corner Logan.	Perkins
768.	H.	—Alden street, north side, at Hickory, 6″ S. con.	Chapman
769.	H.	—Hickory street, N. E. corner Woodbine avenue.	Chapman
770.	H.	—Manhattan street, N. W. corner Eastern avenue.	Chapman
771.	H.	—Manhattan street, north side, midway.	Chapman
772.	H.	—N. E. corner Manhattan and Walnut streets.	Chapman
773.	H.	—Walnut street, east side, opposite No. 396.	Matthews
774.	H.	—Eastern avenue, S. W. corner Marshall place, 6″ S. con.	Chapman
775.	H.	—Hickory street, north side, opposite Smith & Adams' slaughter house.	Chapman
776.	H.	—Melrose street, N. W. corner Eastern avenue, 5″ S. con.	Chapman
777.	H.	—Melrose street, north side, midway, 5″ S. con.	Chapman
778.	H.	—N. E. corner Hickory and Walnut streets.	Matthews
779.	H.	—Hickory street, north side, at No. 110, 6″ S. con.	Chapman
780.	H.	—Hickory street, north side, at No. 130, 6″ S. con.	Chapman
781.	H.	—Allen street, north side, at White.	Chapman

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No.	High or Low.	Location.	Make.
782.	H.	Allen street, north side, near chapel.	Chapman
783.	H.	Allen street, north side, opposite No. 228.	Chapman
784.	H.	Allen street, north side, west of N. E. R. R.	Chapman
785.	H.	Allen street, north side, just east of N. E. R. R.	Perkins
786.	H.	Allen street, north side, midway N. E. R. R. and Plumtree road.	Perkins
787.	H.	Allen street, N. W. corner Plumtree road.	Chapman
788.	H.	White street, west side, 900 feet south of Orange.	Chapman
789.	H.	White street, west side, front of No. 74.	Chapman
790.	H.	White street, west side, opposite chapel.	Chapman
791.	H.	Orange street, east of White, end of pipe, 6″ S. con.	Chapman
792.	H.	Orange street, south side, 380 feet west of White.	Chapman
793.	H.	Orange street, north side, between Highland and White, 6″ S. con.	Chapman
794.	H.	Parker avenue, west side, end of pipe, 6″ S. con.	Chapman
795.	H.	Oakland street, west side, opposite No. 46.	Chapman
796.	H.	Highland street, N. W. corner Orange.	Chapman
797.	H.	Noel avenue, N. W. corner Shamrock.	Chapman
798.	H.	Highland street, N. W. corner Shamrock avenue.	Chapman
799.	H.	S. W. corner Highland and Allen streets.	Chapman
800.	H.	S. W. corner Mill and Allen streets.	Chapman
801.	H.	N. E. corner Mill and Central streets.	Matthews
802.	H.	S. E. corner Hancock and Central streets.	Matthews
803.	H.	Hancock street, west side, south of Central, at end.	Chapman
804.	H.	Mill street, south side, opposite Maple.	Chapman
805.	H.	Cherry street, north side, just west of No. 92.	Chapman
806.	H.	Cherry street, north side, opposite No. 51.	Chapman
807.	H.	N. W. corner Cherry and Central streets.	Chapman
808.	H.	N. E. corner Spruce and Central streets, 6″ S. con.	Chapman
809.	H.	Spruce street, east side, front of No. 34.	Perkins
810.	H.	Hancock avenue, N. E. corner Spruce street, 6″ S. con.	Chapman
811.	H.	Hancock avenue, north side, midway, S. con.	Chapman
812.	H.	N. W. corner Hancock street and Hancock avenue.	Chapman
813.	H.	N. W. corner Hancock and Hawthorn streets.	Chapman
814.	H.	Hawthorn street, north side, midway.	Chapman
815.	H.	S. W. corner Hancock and Florence streets.	Matthews
816.	H.	S. W. corner Florence and Spruce streets.	Matthews
817.	H.	Beech street, east side, midway.	Chapman

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No.	High or Low.	Location.	Make.
818.	H.	—Central street avenue, S. W. corner Central street, 6″ S. con.	Chapman
819.	H.	—Foster court, west roadway.	Chapman
820.	H.	—Foster court, east roadway.	Chapman
821.	H.	—Central street, south side, front of No. 319.	Matthews
822.	H.	—N. E. corner Pine and Central streets.	Perkins
823.	H.	—N. E. corner Pine and Cedar streets.	Matthews
824.	H.	—Ashley street, north side, opposite No. 49.	Chapman
825.	H.	—Ashley street, north side, front of No. 92.	Chapman
826.	H.	—N. W. corner Ashley and Walnut streets.	Chapman
827.	H.	—N. W. corner Cedar and Walnut streets.	Perkins
828.	H.	—N. W. corner Lebanon and Hancock streets.	Matthews
829.	H.	—Queen street, north side, opposite No. 43.	Chapman
830.	H.	—N. W. corner Walnut and James streets.	Matthews
831.	H.	—James street, west side, midway.	Chapman
832.	H.	—King street, north side, midway Hancock and Walnut.	Chapman
833.	H.	—S. E. corner Pendleton avenue and Walnut street.	Perkins
834.	H.	—N. E. corner Pendleton avenue and Orleans street.	Chapman
835.	H.	—N. E. corner Tyler and Orleans streets.	Perkins
836.	H.	—Tyler street, north side, front of Blake Mfg. Co's shop.	Perkins
837.	H.	—N. E. corner Quincy and Stebbins streets.	Chapman
838.	H.	—N. W. corner Quincy and Orleans streets.	Chapman
839.	H.	—N. E. corner Quincy and Oak streets.	Perkins
840.	H.	—S. W. corner Oak street and Charter avenue.	Chapman
841.	H.	—N. E. corner Union and Orleans streets.	Perkins
842.	H.	—N. W. corner Union and Stebbins streets.	Perkins
843.	H.	—Terrence street, east side, midway.	Matthews
844.	H.	—S. E. corner State and Orleans streets.	Matthews
845.	H.	—Lillian street, north side, opposite No. 17.	Chapman
846.	H.	—State Street, north side, midway Benton park.	Perkins
847.	H.	—S. E. corner State and Walnut streets, 6″ S. con.	Chapman
848.	H.	—N. E. corner Walnut street and Charter avenue.	Perkins
849.	H.	—State street, north side, opposite Woodworth avenue, 6″ S. con.	Chapman
850.	H.	—State street, north side, near Olivet church.	Matthews
851.	H.	—S. W. corner High street and Ingraham avenue.	Perkins
852.	H.	—Union street, north side, opposite Mulberry.	Perkins
853.	H.	—S. W. corner Walnut and Union streets.	Perkins
854.	H.	—Walnut street, east side, at Oak.	Perkins
855.	H.	—Pine street, east side, opposite No. 55.	Chapman

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No.	High or Low.	Location.	Make.
856.	H.	—Pine street, east side, opposite No. 109.	Chapman
857.	H.	—Madison avenue, east side, north end.	Chapman
858.	H.	—Central street, at Sterns terrace, 6″.	Chapman
859.	H.	—S. E. corner Central and Cedar streets.	Matthews
860.	H.	—Pine street, north side, opposite No. 239.	Perkins
861.	H.	—N. W. corner Maple and Pine streets, 6″.	Perkins
862.	H.	—Maple avenue, 350 feet east of Maple street, 6″.	Chapman
863.	H.	—Maple street, east side, front of Mrs. S. J. Gordon's.	Matthews
864.	H.	—Central street, north side, east of Maple.	Matthews
865.	H.	—N. E. corner Maple street and Avon place.	Chapman
866.	H.	—Avon place, north side, midway.	Chapman
867.	L.	—Maple street, west side, front of No. 140, 6″ S. con.	Chapman
868.	H.	—S. E. corner Maple and Mulberry streets.	Chapman
869.	H.	—N. E. corner School and Mulberry streets.	Perkins
870.	H.	—Ridgewood place, N. W. corner Mulberry street.	Chapman
871.	H.	—Ridgewood place, S. W. corner Union street.	Chapman
872.	H.	—N. E. corner Union and School streets.	Perkins
873.	H.	—N. E. corner Union and Maple streets.	Chapman
874.	L.	—Maple street, front of No. 104, 6″ S. con.	Chapman
875.	L.	—Maple street, S. W. corner Park, 6″ S. con.	Chapman
876.	H.	—Maple street, west side, opposite High.	Chapman
877.	H.	—High street, south side, opposite No. 36, 6″ S. con.	Chapman
878.	H.	—S. W. corner Maple and Stockbridge streets.	Perkins
879.	H.	—S. E. corner Maple and Temple streets.	Chapman
880.	L.	—S. E. corner Maple and Temple streets, 6″ S. con.	Chapman
881.	H.	—Temple street, south side, front of No. 46.	Chapman
882.	H.	—S. W. corner School and Temple streets.	Chapman
883.	H.	—N. E. corner High and School streets.	Perkins
884.	H.	—Myrtle street, east side, midway.	Perkins
885.	H.	—State street, south side, front of No. 345.	Perkins
886.	L.	—State street, south side, at High school, 6″ S. con.	Chapman
887.	L.	—State street, south side, at Unity church, 6″ S. con.	Chapman

INDIAN ORCHARD.

1.	H.	—N. E. corner Berkshire and Chestnut streets.	Perkins
2.	H.	—Hampden street, S. E. corner Chestnut.	Chapman
3.	H.	—S. E. corner Hampden and Myrtle streets.	Perkins
4.	H.	—S. W. corner Hampden and Oak streets.	Chapman
5.	H.	—S. W. corner Worcester and Oak streets.	Chapman
6.	H.	—Worcester street, at engine house, 6″.	Chapman

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No.	High or Low.	Location.	Make.
7.	H.	S. W. corner Worcester and Myrtle streets.	Perkins
8.	H.	S. W. corner Chestnut and Worcester streets.	Chapman
9.	H.	Main street, north side, west end of park.	Perkins
10.	H.	N. W. corner Main and Myrtle streets.	Perkins
11.	H.	Main street, midway Oak and Myrtle, 6″.	Chapman
12.	H.	N. E. corner Main and Oak streets.	Chapman
13.	H.	S. E. corner Water and Oak streets.	Chapman
14.	H.	S. W. corner Main and Pine streets.	Perkins
15.	H.	N. W. corner Worcester and Pine streets.	Chapman
16.	H.	Worcester street, north side, 600 ft. east of Pine, 6″.	Chapman
17.	H.	Main street, south side, at French church, 6″.	Chapman
18.	H.	S. W. corner Water and Cedar streets.	Chapman
19.	H.	N. W. corner Main and Cedar streets.	Perkins
20.	H.	Main street, midway Cedar and Milton.	Chapman
21.	H.	Main street, north side, near schoolhouse.	Chapman
22.	H.	Milton street, S. E. corner Main, 6″.	Chapman
23.	H.	Milton street, east side, end of pipe, 6″.	Chapman
24.	H.	Beaudry street, east side, end of pipe, 6″.	Chapman
25.	H.	Main street, north side, opposite Beaudry, 6″.	Chapman
26.	H.	Main street, near Wilbraham line.	Chapman
27.	H.	Parker street, S. W. corner Main.	Chapman
28.	H.	Parker street, west side, 1,200 feet south of Main.	Chapman
29.	H.	Parker street, near schoolhouse, 6″.	Chapman
30.	H.	Parker street, midway schoolhouse and Oak street, 6″.	Chapman
31.	H.	Parker street, south of railroad.	Chapman
32.	H.	Oak street, near railroad station, 6″.	Chapman
33.	H.	Oak street, east side, at No. 227, 6″.	Chapman
34.	H.	Oak street, east side, at No. 194.	Chapman
35.	H.	Oak street, between hydrants No's 34 and 36.	Chapman
36.	H.	Oak street, west side, south of Essex.	Chapman
37.	H.	Pasco street, S. E. corner Essex, 6″.	Chapman
38.	H.	Pasco street, east side, end of pipe.	Chapman
39.	H.	Pine street, at Chapman Valve works.	Chapman
40.	H.	N. W. corner Hampshire and Pine streets.	Chapman
41.	H.	N. E. corner Hampshire and Oak streets.	Chapman
42.	H.	Berkshire street, north side, west of Oak.	Chapman
43.	H.	N. W. corner Hampshire and Myrtle streets.	Chapman
44.	H.	N. E. corner Berkshire and Myrtle streets.	Perkins

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FLUSH HDYRANTS.

L.—N. E. corner Hampden and Water streets.
L.—N. E. corner Water and Fort streets.

FIRE RESERVOIRS

CONNECTED WITH THE WORKS.

Bridge street, at Main,	1	
Bridge street, at Water,	1	
Central street, opposite Beech,	1	
Elm street, at First church,	1	
Ferry street, at Main,	1	
Hampden street, at Main,	1	
Harrison avenue, at Main street,	1	
Howard street, at Main,	1	
Lyman street, at Dwight,	1	
Main street, at Court square,	1	
Main street, at Franklin,	1	
Main street, near Patton,	1	
Main street, at State,	1	
Maple street, at Central,	1	
Pine street, at Central,	1	
Pynchon street, near Water,	1	
State street, near Elliott,	1	
Walnut street, at Hancock,	1	
Water street, opposite Walker,	1	
Total,		19

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STREET WATERING HYDRANTS

CONNECTED WITH THE WORKS.

Crane Hydrants—For Cart Sprinklers.

No.	Location.	Service.
1.	Water street, at Worthington,	Low
2.	Cypress street, at Main,	High
3.	Main street, at Hooker school,	High
4.	Fulton street, near Auburn,	Low
5.	North Main street, near Carew,	High
6.	Plainfield street, near John,	Low
7.	North Main street, at Arch,	High
8.	North Main street, near Douglas,	High
9.	North Main street, near Grace,	Low
10.	Chestnut street, at Montmorenci,	Low
11.	North street, at Osgood,	Low
12.	Carew street, at brickyard,	High
13.	Chestnut street, opposite Patton,	Low
14.	Linden street, near Cass,	Low
15.	Chestnut street, near Franklin,	Low
16.	Liberty street, at No. 385,	High
17.	Armory street, at Liberty,	High
18.	Magazine street, at Armory,	High
19.	Armory street, at Grant,	High
20.	Worthington street, at Kibbe avenue,	High
21.	Worthington street, opposite Autumn,	High
22.	Spring street, near Worthington,	High
23.	Byers street, near Pearl,	High
24.	Dwight street, near Taylor,	High
25.	Dwight street, near Hillman,	High
26.	Sanford street, near Dwight,	Low
27.	Chestnut street, at Edwards,	High
28.	State street, at Byers,	High
29.	State street, at Federal,	High
30.	St. James avenue, at Bay street,	High
31.	Worthington street, at Florida,	High
32.	Worthington street, at Thompson park,	High

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No.	Location.	Service.
33.	St. James avenue, at Princeton,	High
34.	Amherst street, at Princeton,	High
35.	Cambridge street, at Bay,	High
36.	Bay street, at Marion,	High
37.	Bay state, near Buckingham,	High
38.	Hancock street, at State,	High
39.	State street, at Mapledell,	High
40.	State street, at Willard avenue,	High
41.	Wilbraham road, near Northampton avenue,	High
42.	Wilbraham road, at engine house,	High
43.	Monroe street, at Eastern avenue,	High
44.	Eastern avenue, at King street,	High
45.	Eastern avenue, at Alden street,	High
46.	Walnut street, opposite Manhattan,	High
47.	Alden street, at Hancock,	High
48.	King street, at Hancock,	High
49.	Quincy street, at Hancock,	High
50.	Walnut street, at Queen,	High
51.	Pine street, at cemetery gate,	High
52.	Oak street, at Walnut,	High
53.	Union street, at Mulberry,	High
54.	Mulberry street, at Ridgewood place,	High
55.	Maple street, at Central,	High
56.	Pine street, at Central,	High
57.	Pine street, at Maple,	High
58.	Central street, at Spruce,	High
59.	Allen street, at Mill,	High
60.	White street, at No. 50,	High
61.	Dickinson street, at Oakland,	High
62.	Euclid avenue, at Dickinson street,	High
63.	Belmont avenue, at top of hill,	High
64.	Belmont avenue, at Euclid,	High
65.	Belmont aveuue, at Oakland street,	High
66.	Sumner avenue, at Forest park,	High
67.	Sumner avenue, near Jackson street,	High
68.	Sumner avenue, near Fort Pleasant,	High
69.	Fort Pleasant avenue, near Crescent terrace,	High
70.	Mill street, at Locust,	High
71.	Pine street, at Mill,	High
72.	South street, at Mill river,	High

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No.	Location.	Service.
73.	Main street, at Locust,	High
74.	Adams street, at Main,	Low
75.	Loring street, at Water,	High
76.	Park street, at Willow,	High
77.	Howard street, at Water,	Low
78.	Water street, at Court,	Low

Track Hydrants—For Car Sprinklers.

No.	Location.	Service.
1.	Bradford street, at Plainfield,	Low
2.	Hooker street, at North Main,	High
3.	Wason avenue, at North Main street,	Low
4.	Montmorenci street, at Chestnut,	Low
5.	Liberty street, at Charles,	High
6.	Liberty street at Armory,	High
7.	Worthington street, east of Federal,	High
8.	Amherst street, at Princeton,	High
9.	Catharine street, at Bowles,	High
10.	College street, at State,	High
11.	St. James avenue, at Bay street,	High
12.	High street, at Walnut,	High
13.	King street, near Eastern avenue,	High
14.	Mill street, opposite Lincoln hall,	High
15.	Sumner avenue, opposite car barn,	High
16.	Fort Pleasant avenue, at Crescent terrace,	High
17.	Main street, at Norwood,	Low
18.	Maple street, at Park,	High
19.	Elm street, at Court square,	High

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WATERING TANKS AND DRINKING FOUNTAINS

CONNECTED WITH THE WORKS.

Bradford street, at Plainfield,	1	
Court street, at Court square,	1	
Liberty street, at Armory,	1	
Main street, at Mill,	1	
Main street, Indian Orchard, at Oak,	1	
Mill street, at Water Shops,	1	
State street, at Federal,	1	
State street, at Winchester park,	1	
State street, at Indian Orchard road — opposite Catholic cemetery,	1	
Sumner avenue, at Beechwood,	1	
Water street, at Court,	1	
Worthington street, east of Dwight,	1	
Total,		12

PUBLIC PARKS AND FOUNTAINS

CONNECTED WITH THE WORKS.

Benton park, State street, between Federal and Magazine,	1	
Calhoun park, Chestnut street, between Calhoun street and Jefferson avenue (no fountain),	1	
Clarendon park, Clarendon street, at Bay,	1	
Concord terrace park, Concord terrace,	1	
Dartmouth park, Dartmouth street, at Bay,	1	
Forest park, Sumner avenue (no fountain),	1	
Kibbe park, Federal street, at Armory,	1	
Magnolia terrace park, Magnolia terrace,	1	
McKnight park, Buckingham street, at Bay,	1	
Mill street park, Mill street, at Pine,	1	
Stearns park, between Bridge and Worthington streets,	1	
Thompson park, St. James avenue, at Worthington street,	1	
Winchester park, State street, at Wilbraham road (no fountain),	1	
Total,		13

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